



*Jesse James*  
SIGNATURE SERIES



# MULTIMASTER 260

## MIG/TIG/STICK WELDING PACKAGE



**INSTRUCTION MANUAL**

**BE SURE THIS INFORMATION REACHES THE OPERATOR.  
YOU CAN GET EXTRA COPIES THROUGH YOUR SUPPLIER.**

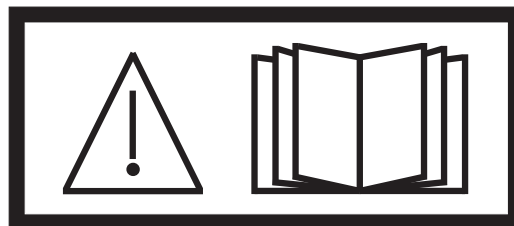
## **CAUTION**

**These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding and cutting equipment, we urge you to read our booklet, "Precautions and Safe Practices for Arc Welding, Cutting, and Gouging," Form 52-529. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.**

## **USER RESPONSIBILITY**

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, maintained and repaired in accordance with the instructions provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.



**READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.**

**PROTECT YOURSELF AND OTHERS!**

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## 1.0 Safety Precautions



**WARNING:** These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.

**PROTECT YOURSELF AND OTHERS --**

**Some welding, cutting, and gouging processes are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:**

1. Always wear safety glasses with side shields in any work area, even if welding helmets, face shields, and goggles are also required.
2. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck, and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
3. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes, and a welding helmet or cap for hair protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.
4. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned, and open pockets eliminated from the front of clothing.
5. Protect other personnel from arc rays and hot sparks with a suitable non-flammable partition or curtains.
6. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

## 1.1 Safety - English



**FIRES AND EXPLOSIONS -- Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:**

1. Remove all combustible materials well away from the work area or cover the materials with a protective non-flammable covering. Combustible materials include wood, cloth, sawdust, liquid and gas fuels, solvents, paints and coatings, paper, etc.
2. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal."
3. Do not weld, cut or perform other hot work until the workpiece has been completely cleaned so that there are no substances on the workpiece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.
4. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
5. Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.
6. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.
7. For additional information, refer to NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**ELECTRICAL SHOCK -- Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling.**

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.
2. Connect the workpiece to a good electrical ground.
3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.
4. Use well-maintained equipment. Replace worn or damaged cables.
5. Keep everything dry, including clothing, work area, cables, torch/electrode holder, and power source.
6. Make sure that all parts of your body are insulated from work and from ground.
7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.
8. Put on dry, hole-free gloves before turning on the power.
9. Turn off the power before removing your gloves.
10. Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.



**ELECTRIC AND MAGNETIC FIELDS** — May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines. Therefore:

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
2. Exposure to EMF may have other health effects which are unknown.

3. Welders should use the following procedures to minimize exposure to EMF:

- A. Route the electrode and work cables together. Secure them with tape when possible.
- B. Never coil the torch or work cable around your body.
- C. Do not place your body between the torch and work cables. Route cables on the same side of your body.
- D. Connect the work cable to the workpiece as close as possible to the area being welded.
- E. Keep welding power source and cables as far away from your body as possible.



**FUMES AND GASES -- Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation.**

**Therefore:**

1. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut, or gouge on materials such as galvanized steel, stainless steel, copper, zinc, lead, beryllium, or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.
2. Do not operate near degreasing and spraying operations. The heat or arc rays can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas, and other irritant gases.
3. If you develop momentary eye, nose, or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.
4. Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.

- 5. WARNING:** This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code §25249.5 et seq.)



**CYLINDER HANDLING -- Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder, valve, or relief device can injure or kill. Therefore:**

1. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.
2. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, walls, post, or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.
3. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks. Avoid rough handling of cylinders.
4. Locate cylinders away from heat, sparks, and flames. Never strike an arc on a cylinder.
5. For additional information, refer to CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.



**EQUIPMENT MAINTENANCE -- Faulty or improperly maintained equipment can cause injury or death. Therefore:**

1. Always have qualified personnel perform the installation, troubleshooting, and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.
2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.
3. Maintain cables, grounding wire, connections, power cord, and power supply in safe working order. Do not operate any equipment in faulty condition.
4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.
5. Keep all safety devices and cabinet covers in position and in good repair.
6. Use equipment only for its intended purpose. Do not modify it in any manner.



**ADDITIONAL SAFETY INFORMATION -- For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.**

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, are recommended to you:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding"
6. AWS C5.6 - "Recommended Practices for Gas Metal Arc Welding"
7. AWS SP - "Safe Practices" - Reprint, Welding Handbook.
8. ANSI/AWS F4.1, "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances."



**MEANING OF SYMBOLS - As used throughout this manual: Means Attention! Be Alert! Your safety is involved.**



**Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.**



**Means potential hazards which could result in personal injury or loss of life.**



**Means hazards which could result in minor personal injury.**



## 1.2 Safety - Spanish



**ADVERTENCIA:** Estas Precauciones de Seguridad son para su protección. Ellas hacen resumen de información proveniente de las referencias listadas en la sección "Información Adicional Sobre La Seguridad". Antes de hacer cualquier instalación o procedimiento de operación, asegúrese de leer y seguir las precauciones de seguridad listadas a continuación así como también todo manual, hoja de datos de seguridad del material, calcomanías, etc. El no observar las Precauciones de Seguridad puede resultar en daño a la persona o muerte.



**PROTEJASE USTED Y A LOS DEMAS-- Algunos procesos de soldadura, corte y ranurado son ruidosos y requieren protección para los oídos. El arco, como el sol, emite rayos ultravioleta (UV) y otras radiaciones que pueden dañar la piel y los ojos. El metal caliente causa quemaduras. EL entrenamiento en el uso propio de los equipos y sus procesos es esencial para prevenir accidentes. Por lo tanto:**

1. Utilice gafas de seguridad con protección a los lados siempre que esté en el área de trabajo, aún cuando esté usando careta de soldar, protector para su cara u otro tipo de protección.
2. Use una careta que tenga el filtro correcto y lente para proteger sus ojos, cara, cuello, y oídos de las chispas y rayos del arco cuando se esté operando y observando las operaciones. Alerta a todas las personas cercanas de no mirar el arco y no exponerse a los rayos del arco eléctrico o el metal fundido.
3. Use guantes de cuero a prueba de fuego, camisa pesada de mangas largas, pantalón de ruedo liso, zapato alto al tobillo, y careta de soldar con capucha para el pelo, para proteger el cuerpo de los rayos y chispas calientes provenientes del metal fundido. En ocasiones un delantal a prueba de fuego es necesario para protegerse del calor radiado y las chispas.
4. Chispas y partículas de metal caliente puede alojarse en las mangas enrolladas de la camisa, el ruedo del pantalón o los bolsillos. Mangas y cuellos deberán mantenerse abotonados, bolsillos al frente de la camisa deberán ser cerrados o eliminados.
5. Proteja a otras personas de los rayos del arco y chispas calientes con una cortina adecuada no-flamable como división.
6. Use careta protectora además de sus gafas de seguridad cuando esté removiendo escoria o puliendo.

La escoria puede estar caliente y desprenderse con velocidad. Personas cercanas deberán usar gafas de seguridad y careta protectora.



**FUEGO Y EXPLOSIONES -- El calor de las flamas y el arco pueden ocasionar fuegos. Escoria caliente y las chispas pueden causar fuegos y explosiones. Por lo tanto:**

1. Remueva todo material combustible lejos del área de trabajo o cubra los materiales con una cobija a prueba de fuego. Materiales combustibles incluyen madera, ropa, líquidos y gases inflamables, solventes, pinturas, papel, etc.
2. Chispas y partículas de metal pueden introducirse en las grietas y agujeros de pisos y paredes causando fuegos escondidos en otros niveles o espacios. Asegúrese de que toda grieta y agujero esté cubierto para proteger lugares adyacentes contra fuegos.
3. No corte, suelde o haga cualquier otro trabajo relacionado hasta que la pieza de trabajo esté totalmente limpia y libre de sustancias que puedan producir gases inflamables o vapores tóxicos. No trabaje dentro o fuera de contenedores o tanques cerrados. Estos pueden explotar si contienen vapores inflamables.
4. Tenga siempre a la mano equipo extintor de fuego para uso instantáneo, como por ejemplo una manguera con agua, cubeta con agua, cubeta con arena, o extintor portátil. Asegúrese que usted esta entrenado para su uso.
5. No use el equipo fuera de su rango de operación. Por ejemplo, el calor causado por cable sobrecarga en los cables de soldar pueden ocasionar un fuego.
6. Después de terminar la operación del equipo, inspeccione el área de trabajo para cerciorarse de que las chispas o metal caliente ocasionen un fuego más tarde. Tenga personal asignado para vigilar si es necesario.
7. Para información adicional, haga referencia a la publicación NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible a través de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**CHOQUE ELECTRICO -- El contacto con las partes eléctricas energizadas y tierra puede causar daño severo o muerte. NO use soldadura de corriente alterna (AC) en áreas húmedas, de movimiento confinado en lugares estrechos o si hay posibilidad de caer al suelo.**

1. Asegúrese de que el chasis de la fuente de poder esté conectado a tierra a través del sistema de electricidad primario.
2. Conecte la pieza de trabajo a un buen sistema de tierra física.
3. Conecte el cable de retorno a la pieza de trabajo. Cables y conductores expuestos o con malas conexiones pueden exponer al operador u otras personas a un choque eléctrico fatal.
4. Use el equipo solamente si está en buenas condiciones. Reemplaze cables rotos, dañados o con conductores expuestos.
5. Mantenga todo seco, incluyendo su ropa, el área de trabajo, los cables, antorchas, pinza del electrodo, y la fuente de poder.
6. Asegúrese que todas las partes de su cuerpo están aisladas de ambos, la pieza de trabajo y tierra.
7. No se pare directamente sobre metal o tierra mientras trabaja en lugares estrechos o áreas húmedas; trabaje sobre un pedazo de madera seco o una plataforma aislada y use zapatos con suela de goma.
8. Use guantes secos y sin agujeros antes de energizar el equipo.
9. Apague el equipo antes de quitarse sus guantes.
10. Use como referencia la publicación ANSI/ASC Standard Z49.1 (listado en la próxima página) para recomendaciones específicas de como conectar el equipo a tierra. No confunda el cable de soldar a la pieza de trabajo con el cable a tierra.



**CAMPOS ELECTRICOS Y MAGNETICOS - Son peligrosos. La corriente eléctrica fluye a través de cualquier conductor causando a nivel local Campos Eléctricos y Magnéticos (EMF). Las corrientes en el área de corte y soldadura, crean EMF alrededor de los cables de soldar y las máquinas. Por lo tanto:**

1. Soldadores u Operadores que use marca-pasos para el corazón deberán consultar a su médico antes de soldar. El Campo Electromagnético (EMF) puede interferir con algunos marca-pasos.
2. Exponerse a campos electromagnéticos (EMF) puede causar otros efectos de salud aún desconocidos.

3. Los soldadores deberán usar los siguientes procedimientos para minimizar exponerse al EMF:

- A. Mantenga el electrodo y el cable a la pieza de trabajo juntos, hasta llegar a la pieza que usted quiere soldar. Asegúrelos uno junto al otro con cinta adhesiva cuando sea posible.
- B. Nunca envuelva los cables de soldar alrededor de su cuerpo.
- C. Nunca ubique su cuerpo entre la antorcha y el cable, a la pieza de trabajo. Mantenga los cables a un sólo lado de su cuerpo.
- D. Conecte el cable de trabajo a la pieza de trabajo lo más cercano posible al área de la soldadura.
- E. Mantenga la fuente de poder y los cables de soldar lo más lejos posible de su cuerpo.



**HUMO Y GASES -- El humo y los gases, pueden causar malestar o daño, particularmente en espacios sin ventilación. No inhale el humo o gases. El gas de protección puede causar falta de oxígeno.**

**Por lo tanto:**

1. Siempre provea ventilación adecuada en el área de trabajo por medio natural o mecánico. No solde, corte, o ranure materiales con hierro galvanizado, acero inoxidable, cobre, zinc, plomo, berilio, o cadmio a menos que provea ventilación mecánica positiva. No respire los gases producidos por estos materiales.
2. No opere cerca de lugares donde se aplique sustancias químicas en aerosol. El calor de los rayos del arco pueden reaccionar con los vapores de hidrocarburo clorinado para formar un fosfógeno, o gas tóxico, y otros irritantes.
3. Si momentáneamente desarrolla irritación de ojos, nariz o garganta mientras está operando, es indicación de que la ventilación no es apropiada. Pare de trabajar y tome las medidas necesarias para mejorar la ventilación en el área de trabajo. No continúe operando si el malestar físico persiste.
4. Haga referencia a la publicación ANSI/ASC Standard Z49.1 (Vea la lista a continuación) para recomendaciones específicas en la ventilación.

- 5. ADVERTENCIA-- Este producto cuando se utiliza para soldaduras o cortes, produce humos o gases, los cuales contienen químicos conocidos por el Estado de California de causar defectos en el nacimiento, o en algunos casos, Cancer. (California Health & Safety Code §25249.5 et seq.)**



**MANEJO DE CILINDROS-- Los cilindros, si no son manejados correctamente, pueden romperse y liberar violentamente gases. Rotura repentina del cilindro, válvula, o válvula de escape puede causar daño o muerte. Por lo tanto:**

1. Utilice el gas apropiado para el proceso y utilice un regulador diseñado para operar y reducir la presión del cilindro de gas. No utilice adaptadores. Mantenga las mangueras y las conexiones en buenas condiciones. Observe las instrucciones de operación del fabricante para montar el regulador en el cilindro de gas comprimido.
2. Asegure siempre los cilindros en posición vertical y amárrelos con una correa o cadena adecuada para asegurar el cilindro al carro, transportes, tabuleros, paredes, postes, o almacén. Nunca asegure los cilindros a la mesa de trabajo o las piezas que son parte del circuito de soldadura. Este puede ser parte del circuito eléctrico.
3. Cuando el cilindro no está en uso, mantenga la válvula del cilindro cerrada. Ponga el capote de protección sobre la válvula si el regulador no está conectado. Asegure y mueva los cilindros utilizando un carro o transporte adecuado. Evite el manejo brusco de los



**MANTENIMIENTO DEL EQUIPO -- Equipo defectuoso o mal mantenido puede causar daño o muerte. Por lo tanto:**

1. Siempre tenga personal cualificado para efectuar la instalación, diagnóstico, y mantenimiento del equipo. No ejecute ningún trabajo eléctrico a menos que usted esté cualificado para hacer el trabajo.
2. Antes de dar mantenimiento en el interior de la fuente de poder, desconecte la fuente de poder del suministro de electricidad primaria.
3. Mantenga los cables, cable a tierra, conexiones, cable primario, y cualquier otra fuente de poder en buen estado operacional. No opere ningún equipo en malas condiciones.
4. No abuse del equipo y sus accesorios. Mantenga el equipo lejos de cosas que generen calor como hornos, también lugares húmedos como charcos de agua, aceite o grasa, atmósferas corrosivas y las inclemencias del tiempo.
5. Mantenga todos los artículos de seguridad y coberturas del equipo en su posición y en buenas condiciones.
6. Use el equipo sólo para el propósito que fue diseñado. No modifique el equipo en ninguna manera.



**INFORMACION ADICIONAL DE SEGURIDAD -- Para más información sobre las prácticas de seguridad de los equipos de arco eléctrico para soldar y cortar, pregunte a su proveedor por una copia de "Precautions and Safe Practices for Arc Welding, Cutting and Gouging-Form 52-529."**

Las siguientes publicaciones, disponibles a través de la American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, son recomendadas para usted:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"



**SIGNIFICADO DE LOS SIMBOLOS**  
-- Según usted avanza en la lectura de este folleto: Los Símbolos Significan ¡Atención! ¡Esté Alerta! Se trata de su seguridad.



Significa riesgo inmediato que, de no ser evadido, puede resultar inmediatamente en serio daño personal o la muerte.



Significa el riesgo de un peligro potencial que puede resultar en serio daño personal o la muerte.



Significa el posible riesgo que puede resultar en menores daños a la persona.

## 1.3 Safety - French



**AVERTISSEMENT :** Ces règles de sécurité ont pour but d'assurer votre protection. Ils récapitulent les informations de précaution provenant des références dans la section des Informations de sécurité supplémentaires. Avant de procéder à l'installation ou d'utiliser l'unité, assurez-vous de lire et de suivre les précautions de sécurité ci-dessous, dans les manuels, les fiches d'information sur la sécurité du matériel et sur les étiquettes, etc. Tout défaut d'observer ces précautions de sécurité peut entraîner des blessures graves ou mortelles.



**PROTÉGEZ-VOUS -- Les processus de soudage, de coupage et de gougeage produisent un niveau de bruit élevé et exige l'emploi d'une protection auditive. L'arc, tout comme le soleil, émet des rayons ultraviolets en plus d'autre rayons qui peuvent causer des blessures à la peau et les yeux. Le métal incandescent peut causer des brûlures. Une formation reliée à l'usage des processus et de l'équipement est essentielle pour prévenir les accidents. Par conséquent :**

1. Portez des lunettes protectrices munies d'écrans latéraux lorsque vous êtes dans l'aire de travail, même si vous devez porter un casque de soudeur, un écran facial ou des lunettes étanches.
2. Portez un écran facial muni de verres filtrants et de plaques protectrices appropriées afin de protéger vos yeux, votre visage, votre cou et vos oreilles des étincelles et des rayons de l'arc lors d'une opération ou lorsque vous observez une opération. Avertissez les personnes se trouvant à proximité de ne pas regarder l'arc et de ne pas s'exposer aux rayons de l'arc électrique ou le métal incandescent.
3. Portez des gants ignifugés à crispin, une chemise épaisse à manches longues, des pantalons sans rebord et des chaussures montantes afin de vous protéger des rayons de l'arc, des étincelles et du métal incandescent, en plus d'un casque de soudeur ou casquette pour protéger vos cheveux. Il est également recommandé de porter un tablier ininflammable afin de vous protéger des étincelles et de la chaleur par rayonnement.
4. Les étincelles et les projections de métal incandescent risquent de se loger dans les manches retroussées, les rebords de pantalons ou les poches. Il est recommandé de garder boutonnés le col et les manches et de porter des vêtements sans poches en avant.
5. Protégez toute personne se trouvant à proximité des étincelles et des rayons de l'arc à l'aide d'un rideau ou d'une cloison ininflammable.
6. Portez des lunettes étanches par dessus vos lunettes de sécurité lors des opérations d'écaillage ou de meulage du laitier. Les écailles de laitier incandescent peuvent être projetées à des distances considérables. Les personnes se trouvant à proximité doivent également porter des lunettes étanches par dessus leur lunettes de sécurité.



**INCENDIES ET EXPLOSIONS -- La chaleur provenant des flammes ou de l'arc peut provoquer un incendie. Le laitier incandescent ou les étincelles peuvent également provoquer un incendie ou une explosion. Par conséquent :**

1. Éloignez suffisamment tous les matériaux combustibles de l'aire de travail et recouvrez les matériaux avec un revêtement protecteur ininflammable. Les matériaux combustibles incluent le bois, les vêtements, la sciure, le gaz et les liquides combustibles, les solvants, les peintures et les revêtements, le papier, etc.
2. Les étincelles et les projections de métal incandescent peuvent tomber dans les fissures dans les planchers ou dans les ouvertures des murs et déclencher un incendie couvant à l'étage inférieur. Assurez-vous que ces ouvertures sont bien protégées des étincelles et du métal incandescent.
3. N'exécutez pas de soudure, de coupe ou autre travail à chaud avant d'avoir complètement nettoyé la surface de la pièce à traiter de façon à ce qu'il n'ait aucune substance présente qui pourrait produire des vapeurs inflammables ou toxiques. N'exécutez pas de travail à chaud sur des contenants fermés car ces derniers pourraient exploser.
4. Assurez-vous qu'un équipement d'extinction d'incendie est disponible et prêt à servir, tel qu'un tuyau d'arrosage, un seau d'eau, un seau de sable ou un extincteur portatif. Assurez-vous d'être bien instruit par rapport à l'usage de cet équipement.
5. Assurez-vous de ne pas excéder la capacité de l'équipement. Par exemple, un câble de soudage surchargé peut surchauffer et provoquer un incendie.
6. Une fois les opérations terminées, inspectez l'aire de travail pour assurer qu'aucune étincelle ou projection de métal incandescent ne risque de provoquer un incendie ultérieurement. Employez des guetteurs d'incendie au besoin.
7. Pour obtenir des informations supplémentaires, consultez le NFPA Standard 51B, "Fire Prevention in Use of Cutting and Welding Processes", disponible au National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.



**CHOC ÉLECTRIQUE -- Le contact avec des pièces électriques ou les pièces de mise à la terre sous tension peut causer des blessures graves ou mortelles. NE PAS utiliser un courant de soudage c.a. dans un endroit humide, en espace restreint ou si un danger de chute se pose.**



1. Assurez-vous que le châssis de la source d'alimentation est branché au système de mise à la terre de l'alimentation d'entrée.
2. Branchez la pièce à traiter à une bonne mise de terre électrique.
3. Branchez le câble de masse à la pièce à traiter et assurez une bonne connexion afin d'éviter le risque de choc électrique mortel.
4. Utilisez toujours un équipement correctement entretenu. Remplacez les câbles usés ou endommagés.
5. Veillez à garder votre environnement sec, incluant les vêtements, l'aire de travail, les câbles, le porte-électrode/torche et la source d'alimentation.
6. Assurez-vous que tout votre corps est bien isolé de la pièce à traiter et des pièces de la mise à la terre.
7. Si vous devez effectuer votre travail dans un espace restreint ou humide, ne tenez vous pas directement sur le métal ou sur la terre; tenez-vous sur des planches sèches ou une plate-forme isolée et portez des chaussures à semelles de caoutchouc.
8. Avant de mettre l'équipement sous tension, isolez vos mains avec des gants secs et sans trous.
9. Mettez l'équipement hors tension avant d'enlever vos gants.
10. Consultez ANSI/ASC Standard Z49.1 (listé à la page suivante) pour des recommandations spécifiques concernant les procédures de mise à la terre. Ne pas confondre le câble de masse avec le câble de mise à la terre.



**CHAMPS ÉLECTRIQUES ET MAGNÉTIQUES — comportent un risque de danger. Le courant électrique qui passe dans n'importe quel conducteur produit des champs électriques et magnétiques localisés. Le soudage et le courant de coupage créent des champs électriques et magnétiques autour des câbles de soudage et l'équipement. Par conséquent :**

1. Un soudeur ayant un stimulateur cardiaque doit consulter son médecin avant d'entreprendre une opération de soudage. Les champs électriques et magnétiques peuvent causer des ennuis pour certains stimulateurs cardiaques.
2. L'exposition à des champs électriques et magnétiques peut avoir des effets néfastes inconnus pour la santé.

3. Les soudeurs doivent suivre les procédures suivantes pour minimiser l'exposition aux champs électriques et magnétiques :
  - A. Acheminez l'électrode et les câbles de masse ensemble. Fixez-les à l'aide d'une bande adhésive lorsque possible.
  - B. Ne jamais enrouler la torche ou le câble de masse autour de votre corps.
  - C. Ne jamais vous placer entre la torche et les câbles de masse. Acheminez tous les câbles sur le même côté de votre corps.
  - D. Branchez le câble de masse à la pièce à traiter le plus près possible de la section à souder.
  - E. Veillez à garder la source d'alimentation pour le soudage et les câbles à une distance appropriée de votre corps.



**LES VAPEURS ET LES GAZ -- peuvent causer un malaise ou des dommages corporels, plus particulièrement dans les espaces restreints. Ne respirez pas les vapeurs et les gaz. Le gaz de protection risque de causer l'asphyxie. Par conséquent :**

1. Assurez en permanence une ventilation adéquate dans l'aire de travail en maintenant une ventilation naturelle ou à l'aide de moyens mécanique. N'effectuez jamais de travaux de soudage, de coupage ou de gougeage sur des matériaux tels que l'acier galvanisé, l'acier inoxydable, le cuivre, le zinc, le plomb, le beryllium ou le cadmium en l'absence de moyens mécaniques de ventilation efficaces. Ne respirez pas les vapeurs de ces matériaux.
2. N'effectuez jamais de travaux à proximité d'une opération de dégraissage ou de pulvérisation. Lorsque la chaleur ou le rayonnement de l'arc entre en contact avec les vapeurs d'hydrocarbure chloré, ceci peut déclencher la formation de phosgène ou d'autres gaz irritants, tous extrêmement toxiques.
3. Une irritation momentanée des yeux, du nez ou de la gorge au cours d'une opération indique que la ventilation n'est pas adéquate. Cessez votre travail afin de prendre les mesures nécessaires pour améliorer la ventilation dans l'aire de travail. Ne poursuivez pas l'opération si le malaise persiste.
4. Consultez ANSI/ASC Standard Z49.1 (à la page suivante) pour des recommandations spécifiques concernant la ventilation.

**5. AVERTISSEMENT :** Ce produit, lorsqu'il est utilisé dans une opération de soudage ou de coupage, dégage des vapeurs ou des gaz contenant des chimiques considérées par l'état de la Californie comme étant une cause des malformations congénitales et dans certains cas, du cancer. (California Health & Safety Code §25249.5 et seq.)



**MANIPULATION DES CYLINDRES --** La manipulation d'un cylindre, sans observer les précautions nécessaires, peut produire des fissures et un échappement dangereux des gaz.

**Une brisure soudaine du cylindre, de la soupape ou du dispositif de surpression peut causer des blessures graves ou mortelles. Par conséquent :**

1. Utilisez toujours le gaz prévu pour une opération et le détendeur approprié conçu pour utilisation sur les cylindres de gaz comprimé. N'utilisez jamais d'adaptateur. Maintenez en bon état les tuyaux et les raccords. Observez les instructions d'opération du fabricant pour assembler le détendeur sur un cylindre de gaz comprimé.
2. Fixez les cylindres dans une position verticale, à l'aide d'une chaîne ou une sangle, sur un chariot manuel, un châssis de roulement, un banc, un mur, une colonne ou un support convenable. Ne fixez jamais un cylindre à un poste de travail ou toute autre dispositif faisant partie d'un circuit électrique.
3. Lorsque les cylindres ne servent pas, gardez les soupapes fermées. Si le détendeur n'est pas branché, assurez-vous que le bouchon de protection de la soupape est bien en place. Fixez et déplacez les cylindres à l'aide d'un chariot manuel approprié. Toujours manipuler les cylindres avec soin.
4. Placez les cylindres à une distance appropriée de toute source de chaleur, des étincelles et des flammes. Ne jamais amorcer l'arc sur un cylindre.
5. Pour de l'information supplémentaire, consultez CGA Standard P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders", mis à votre disposition par le Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.



**ENTRETIEN DE L'ÉQUIPEMENT --** Un équipement entretenu de façon défectueuse ou inadéquate peut causer des blessures graves ou mortelles. Par conséquent :

1. Efforcez-vous de toujours confier les tâches d'installation, de dépannage et d'entretien à un personnel qualifié. N'effectuez aucune réparation électrique à moins d'être qualifié à cet effet.
2. Avant de procéder à une tâche d'entretien à l'intérieur de la source d'alimentation, débranchez l'alimentation électrique.
3. Maintenez les câbles, les fils de mise à la terre, les branchements, le cordon d'alimentation et la source d'alimentation en bon état. N'utilisez jamais un équipement s'il présente une défectuosité quelconque.
4. N'utilisez pas l'équipement de façon abusive. Gardez l'équipement à l'écart de toute source de chaleur, notamment des fours, de l'humidité, des flaques d'eau, de l'huile ou de la graisse, des atmosphères corrosives et des intempéries.
5. Laissez en place tous les dispositifs de sécurité et tous les panneaux de la console et maintenez-les en bon état.
6. Utilisez l'équipement conformément à son usage prévu et n'effectuez aucune modification.



**INFORMATIONS SUPPLÉMENTAIRES RELATIVES À LA SÉCURITÉ --** Pour obtenir de l'information supplémentaire sur les règles de sécurité à observer pour l'équipement de soudage à l'arc électrique et le coupage, demandez un exemplaire du livret "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

Les publications suivantes sont également recommandées et mises à votre disposition par l'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126 :

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 - "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon Arc Gouging and Cutting"

**SIGNIFICATION DES SYMBOLES**

Ce symbole, utilisé partout dans ce manuel, signifie "Attention" ! Soyez vigilant ! Votre sécurité est en jeu.

**DANGER**

Signifie un danger immédiat. La situation peut entraîner des blessures graves ou mortelles.

**AVERTISSEMENT**

Signifie un danger potentiel qui peut entraîner des blessures graves ou mortelles.

**ATTENTION**

Signifie un danger qui peut entraîner des blessures corporelles mineures.



## 2.0 DESCRIPTION

### ***Industrial Ready-To-Weld Multi-Process Package***

#### **Multimaster 260**

- *Advanced SuperSwitch™ technology makes multi-process welding a breeze. Simplified setup makes it easy to select Mig, Tig, or Stick*
- *DC welding output from 15 to 300 amps; rated 260 amps at 50% duty cycle*
- *Output Pre-Set Capability for Quick Set-Up*
- *Two Digital Meters for Easy Fine Tuning*
- *Heavy Duty Four Drive Roll Stand*
- *Convenient, Large Capacity Built-In Tool Box*
- *Dual “Easy-On” Cylinder Tray*



#### **Ordering Information**

The Multimaster 260 is a DC welding system designed for Mig (GMAW), Tig (GTAW) or Stick (SMAW) welding. In the Mig mode this unit is capable of operating with short arc or spray arc transfer and handles both solid wires and tubular cored wires. This unit is suitable for carbon steel, stainless steel, aluminum and many other alloys. It provides a power source with built in wire feeder and undercarriage with provisions for two gas cylinders.

The following part number and description is for the Jesse James Series Multimaster 260 package.

**Part Number - 0558004425, MultiMaster 260 230V Jesse James 15' package**

The following part number and description is for the basic Jesse James Series Multimaster 260 console (no accessories).

**Part Number - 0558004424, MultiMaster 260 230V Jesse James console**

#### **PACKAGE CONTENTS (Standard Accessories)**

Each Jesse James Series Multimaster 260 package includes:

- P/N 0558004424, MM260 230V Jesse James console
- P/N 0558001649, 250 Amp “CC” 15 x 035-045 MST Gun
- P/N 21557, R-33-FM-580 Regulator / Flowmeter
- P/N 811FTF45, 87 HP HI Dep III .035
- P/N 811005313 5 lb. Stick Electrode Assortment
- P/N 13733936, Cable Plug (1/0 - 2/0)
- P/N 882F25, AF-1 Electrode Holder
- P/N 996995, Contact Tip MT M 035 (5)
- P/N 37290, Contact Tip MT M 045 (5)



Remote Control Option

"Spool-on-Gun" Option



## Optional Equipment

Pre/Post Flow/Spot/Burnback module ..... 0558002889  
 Inductance Control Module ..... 0558002888  
 Remote Control Module ..... 0558002605

FC-5B Foot Control - 30 ft. (9.1 m) cable..... 33646  
 Provides remote current control and contactor (on/off) control

Spool Gun Module..... 0558002606

MT-250SG Spool Gun ..... 36779  
 (Requires Spool Gun module)

ST-23A Spool Gun ..... 19164  
 (Requires adapter 37301 and Spool Gun module)

HW-17V-2TL (w/valve) Heliarc Tig Torch Assembly ..... 35857  
 Tig weld without disconnecting the Mig torch. 60 deg. 12.5 ft.

HW-17 Torch Accessory Kit ..... 999126  
 Work Cable & Clamp..... 35881

Electrode Holder Assembly - 175 amp (15 ft.) ..... 0558001786  
 Includes holder, cable and quick connector

Electrode Holder Assembly - 300 Amp (15 ft.) ..... 21226  
 Includes holder, cable and quick connector

Tee Connector (1 male/ 2 female) ..... 13792804  
 Primary Extension Cord (25 ft.)..... 37833  
 TIG Welding Handbook ..... 781F29  
 MIG Welding Handbook..... 791F18

## Specifications

Rated DCCV or DCCC Output (10 min base)  
 50% duty cycle (NEMA Class I) ..... 260 amps @ 27 vdc

Output Current Range

Mig (GMAW).....	35-300 amps
Tig (GTAW).....	10-300 amps
Stick (SMAW).....	40-300 amps

Open Circuit Voltage

Mig (MGAW).....	39.0 vdc
Tig (TGAW).....	20 vdc
Stick (SMAW).....	70 vdc

Primary Input Voltage & Current @ 260 amp rated load

208/230 vac, 60 Hz, 1 ph.....	57/52 amps
-------------------------------	------------

Wire Feed Range..... 65-675 ipm (1.6 - 17.3 m/min)

Net Weight..... 250 lbs. (112.5 kg)

Shipping Weight..... 290 lbs. (130.5 kg)

W x L x H..... 25.3 in. (64 cm) x 39.5 in. (100 cm) x 33.5 in. (85 cm)

## 2.1 GENERAL

This manual has been prepared for experienced welders. Do NOT permit untrained persons to install, operate or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions.

This manual is intended for use in familiarizing personnel with the design and operation of this equipment. All information presented here should be read carefully before installing and using this equipment.

## 2.2 RECEIVING-HANDLING

Upon receipt of this equipment, clean all packing material from around the unit and immediately inspect for any damage that may have occurred during shipment. Any claims for loss or damage occurring in transit must be filed with the carrier. The carrier will furnish a copy of the bill of lading and the freight bill on request, if the need to file a damage claim arises.

When requesting information regarding this equipment, make sure that you include product name, part number, and serial number.

## 2.3 SAFETY

The safety section at the front of this manual should be read completely before attempting to install and operate this equipment. Both equipment and personnel hazards are reduced if proper safety precautions are taken. If you are unsure of yourself in any situation, ask your supervisor or other experienced personnel for help.

**DANGER**

Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.

**WARNING**

Means potential hazards which could result in personal injury or loss of life.

**CAUTION**

Means hazards which could result in minor personal injury.

## 2.4 POWER SOURCE

The power source is a secondary chopper DC output designed for single phase primary connections. An output controlled fan provides proper cooling during normal welding operations and shuts off four minutes after welding stops. The fan will automatically re-start when welding resumes and proper machine temperatures will be maintained.

## 2.5 WIRE FEEDER

The four (4) roll drive wire feeder is built into the power source cabinet, housed separately from the welding machine electrical components. Cooling air is not drawn through the wire feeder compartment or electronic controls reducing exposure to dirt and dust which improves product performance and reliability.

The wire feeder pushes wire at speeds from 65 to 675 ipm (inches per minute).

## **2.6 CONTROLS**

The Multimaster 260 can be used to weld solid and flux cored wires. The operator selects the process desired on a three position switch located on the front panel. A detailed description of the power source controls is included in Section 4 (Operation) of this manual.

## **2.7 BUILT-IN TOOL BOX**

The Multimaster 260 is designed with a lockable storage space on the left side of the machine for welding accessories such as contact tips, gas nozzles, small grinder, spare parts, welding hood and protective clothing. (Figure 1B)

## **2.8 GUN MASTER 250 MIG GUN**

This air-cooled welding gun is supplied complete and ready to weld .035 in. hard wire. The gun accommodates .045 inch wire by changing the contact tip. Other wire sizes can be used. Refer to Section 6, for other wire size and alloy accessories.

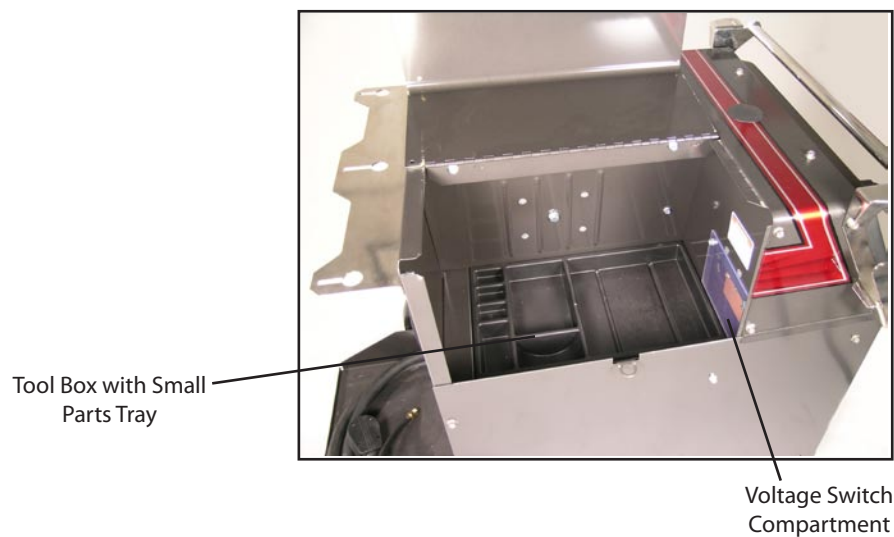
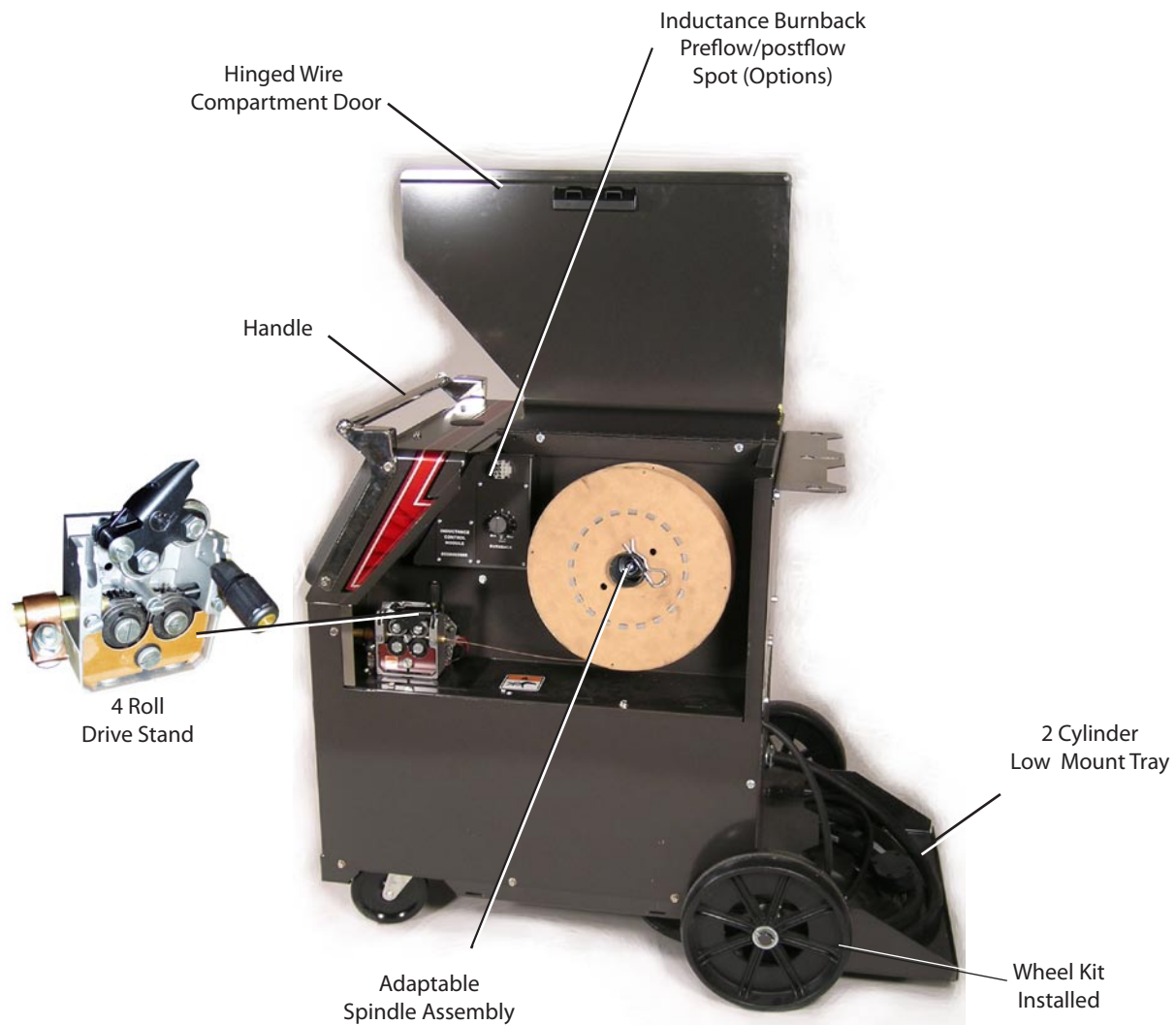
## **2.9 RUNNING GEAR**

The Multimaster 260 is equipped with running gear with swivel front wheels and a dual gas cylinder support.



Figure 1A - Components



**Figure 1B - Components**

### 3.0 INSTALLATION

#### 3.1 LOCATION

Several factors should be considered when selecting an installation site. Adequate ventilation is necessary to provide cooling, and the amount of dirt and dust to which the machine is exposed should be minimized. There should be at least 18 inches of unrestricted space between the machine's side and rear panels and the nearest obstruction to provide freedom of air movement through the power source.

The installation site should permit easy removal of the machine's outer enclosure for maintenance. Installing or placing any type of filtering device will restrict the volume of intake air, thus subjecting the internal components to overheating. Warranty is void if any type of filtering device is used.

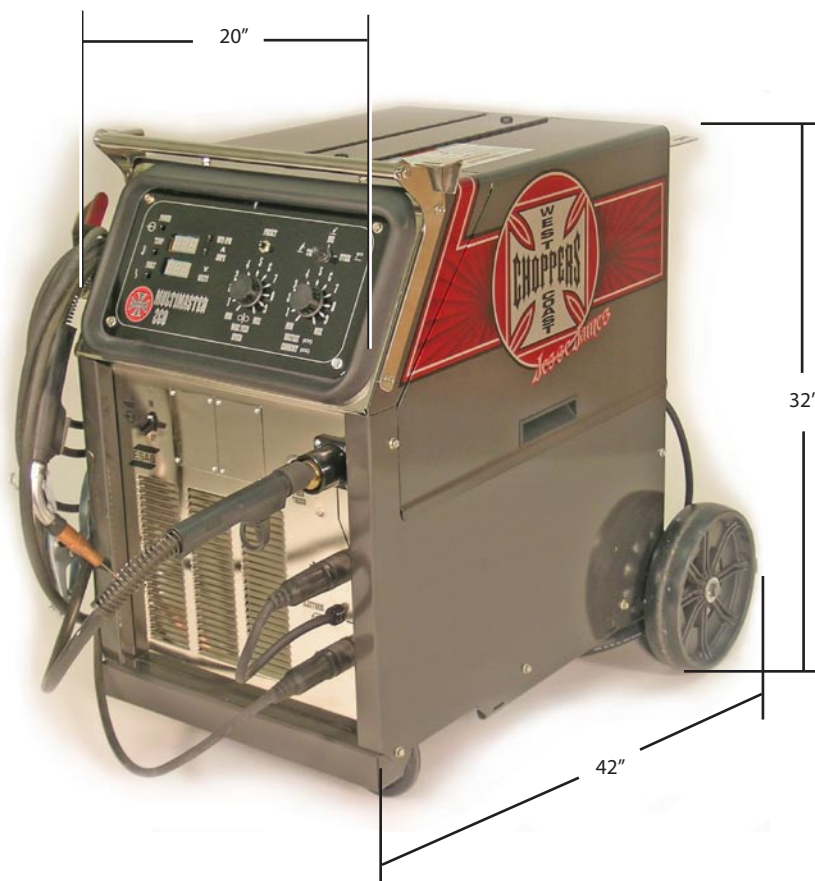
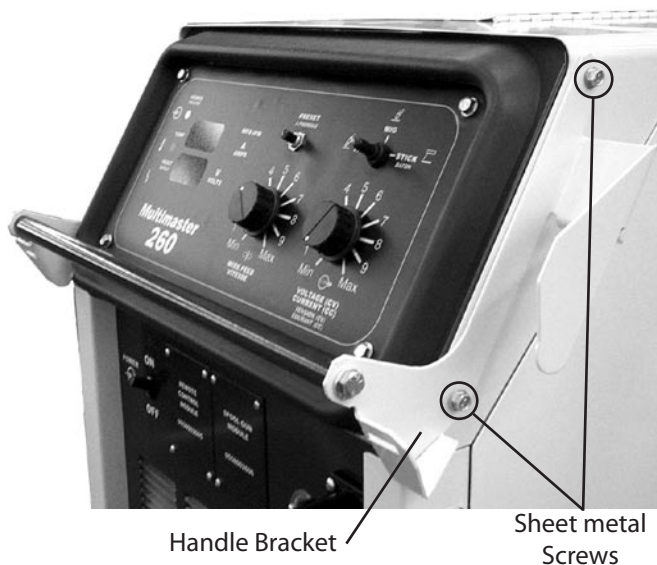


Figure 2 - Dimensions

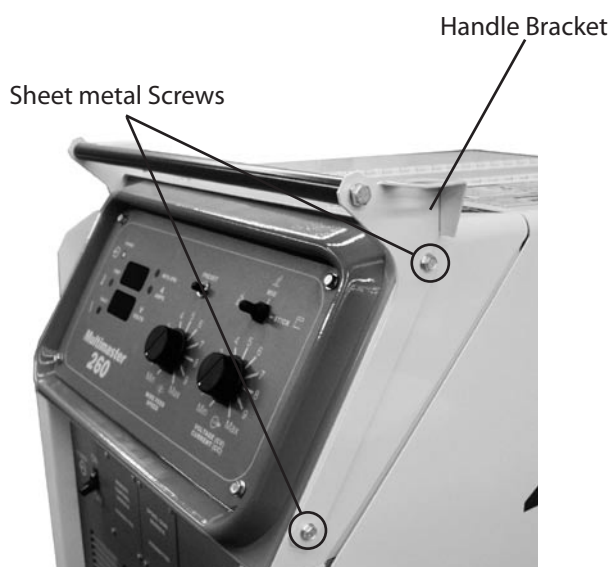
### 3.2 HANDLE ASSEMBLY INSTALLATION

The Multimaster 260 is factory assembled except for the front handle assembly which is mounted to the machine upside down for shipping purposes. The handle assembly consists of two brackets and a cross bar. To install the handle in its proper position, do the following:

- A. Remove the two sheet metal screws from the brackets on each side of the front handle assembly. See Figure 3A.
- B. Remove front handle assembly and reverse sides with the mounting brackets. This will put the handle assembly in the proper orientation. Reattach brackets using the sheet metal screws removed in Step A. See Figure 3B.



**Figure 3A - Handle Assembly Removal**



**Figure 3B - Handle Assembly Installation**



## 3.3 ELECTRICAL INPUT CONNECTIONS

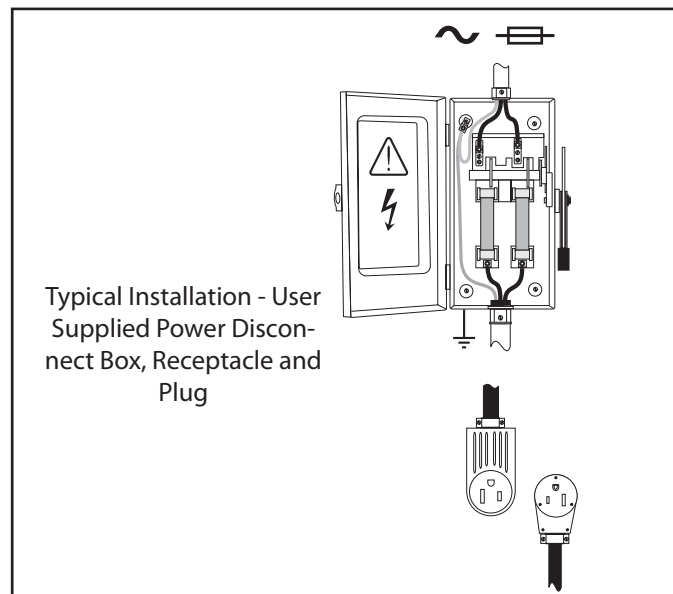
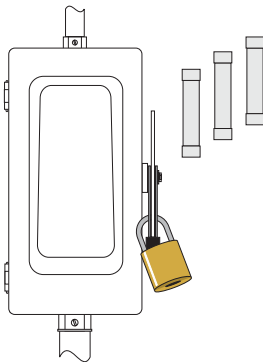
In order to provide a safe and convenient means to completely remove all electrical power from the machine, it is highly recommended that a line disconnect switch be installed in the input circuit of the machine.

### WARNING

Before making electrical input connections to the welding machine, “Machinery Lockout Procedures” should be employed. If the connections are to be made from a line disconnect switch, the switch should be padlocked in the off position. If the connection is to be made from a fusebox, remove the fuses and padlock the cover closed. If no locking facilities are available, attach a red tag to warn others not to energize the circuit.

### 3.3.1 INPUT ELECTRICAL REQUIREMENTS

The primary input voltage requirements are shown on the power source nameplate. The power source is designed to be operated from 208/230 vac single phase 50/60 Hz.



Input Conductor and Fuse Size

Primary Input Volts	Full Load Line Amperes	Fuse Size	Recommended	
			Primary Input Conductor Size	Ground Conductor Size
208	57	90	8	8
230	52	90	8	8
460	26	30	12	12
575	20	30	12	12

### 3.3.2 INPUT PLUG

The input power cord is provided with an attachment plug. The plug will mate with a 250 volt, 50 Amp receptacle conforming to NEMA 6-50R configuration (208/230 vac model only).

The receptacle should be wired to a separately fused disconnect or circuit breaker by an electrician. This disconnect or breaker can be wired to a single phase system or two conductors of a three phase system. A third conductor for grounding must be connected between the disconnect and the receptacle.

## WARNING

The terminal labeled GRD is connected to the power source chassis and is for ground purposes only. This must be connected to a good electrical ground. Do not connect a conductor from the terminal labeled GRD to any one of the L1, L2 terminals as this will result in an electrically hot machine chassis.

### 3.4 VOLTAGE CHANGEOVER (Figure 4)

The voltage changeover terminal board is located in the tool compartment on the left side of the machine. As shipped from the factory, the Multimaster 260 is configured for the highest connectable voltage. If using the other input voltages, the links on the terminal board (TB) inside the unit must be repositioned for the appropriate input voltage. See figures 4A - 4E for 60Hz input voltage configurations. To gain access to the terminal board, open the access panel on the left side. To change voltages, perform the following:

- Remove the left screw ONLY and swing plexiglass door upward.
- Adjust the copper bar links to the primary voltage being used.
- Swing clear panel down and secure with screw.

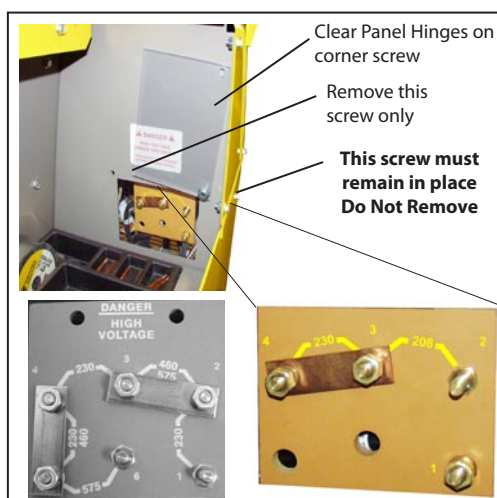
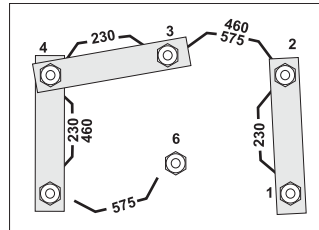


Figure 4 - Voltage Changeover Terminal Board  
208/230 Version Shown Installed

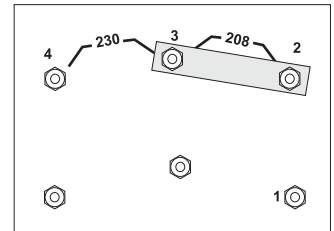
**Figure 4A -  
Input Terminal Board  
230/460/575 Vac Model**

230 Vac Configuration



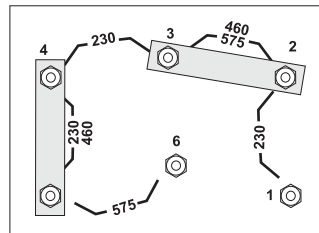
**Figure 4D -  
Input Terminal Board  
208/230 Vac Model**

208 Vac Configuration



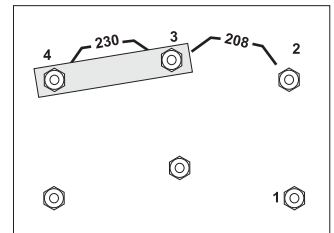
**Figure 4B -  
Input Terminal Board  
230/460/575 Vac Model**

460 Vac Configuration



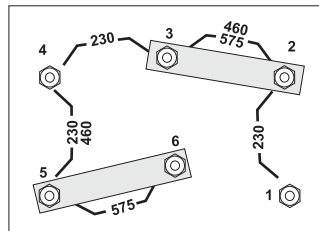
**Figure 4E -  
Input Terminal Board  
208/230 Vac Model**

230 Vac Configuration



**Figure 4C -  
Input Terminal Board  
230/460/575 Vac Model**

575 Vac Configuration



### 3.5 SECONDARY OUTPUT CONNECTIONS (Figure 5)

The Multimaster 260 Welding System is completely self-contained so that the front panel gun/torch connections are internally connected to the welding polarity (DCEP or DCEN) via the secondary output terminals depending on the welding process being used.

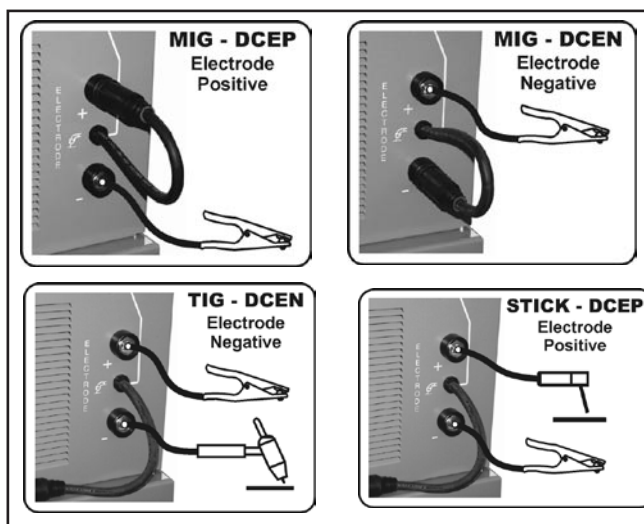


Figure 5 - Polarity Set-up

### 3.6 TORCH CONNECTIONS (Figure 6)

The torch (GUNMASTER 250), which is supplied as standard equipment with the Migmaster 250 System, is provided with a euro-type adapter which directly connects to the torch fitting mounted on the front panel. Line up matching holes, push on and tighten locking collar. As shipped from the factory, the euro or common connector type torches are set-up for D.C.R.P. welding polarity (see sections 3.3 or 4.1.3). To connect the spool-on-gun torch (ST-23A) see Section 4.2.2.

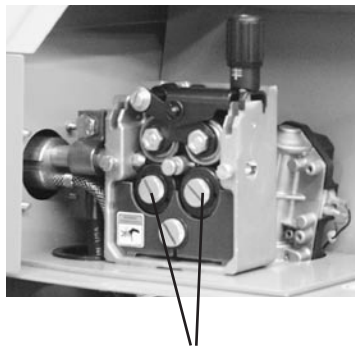


Figure 6 - Gun Connector

**3.7 WIRE FEEDER MECHANISM****3.7.1 DRIVE ROLLS (Figure 7 and 9)**

The drive roll has two grooves: the small groove feeds .035 in. diameter wire, the large groove feeds .045 in. wire. The groove nearest the gear motor feeds the wire. If the required groove is not correctly positioned, perform the following:

- A. Release the pressure drive roll lever.
- B. Remove the two (2) screws holding the drive rolls to the gears.
- C. Reverse the drive roll on the drive roll shaft.
- D. Replace the screws and tighten.
- E. Secure the pressure drive roll assembly.



Feed Roll Release Screws

**Figure 7 - Wire Feeder Mechanism**

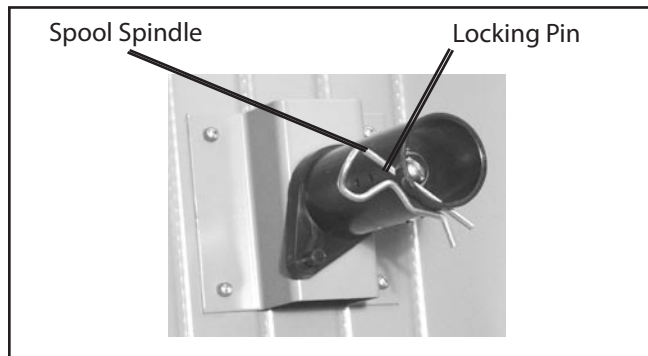
### 3.7.2 WELDING WIRE SPOOL INSTALLATION

## CAUTION

As with any work area, make sure safety glasses with side shields are worn when handling or changing wire or clipping wire off at the spool or at the end of the torch. Hold onto the wire coming off the spool with one hand before clipping. Serious eye injury can result due to the resilience of the wire which can quickly unravel, or a cut wire end which may shoot across the room.

Install a spool of welding wire on the spindle as follows:

- A. Remove the locking pin from the spindle (**Figure 8**).
- B. Place wire spool on the spindle to rotate clockwise as wire is unwound; spindle brake pin must engage hole in spool.
- C. Replace the locking pin into the spindle hole closest to the spool.



**Figure 8 - Spindle Assembly**

### 3.7.3 THREADING WELDING WIRE

- A. Turn off power switch.
- B. Release pressure drive roll assembly. Check that proper wire diameter grooves are in the inner position.

## CAUTION

Before threading welding wire, make sure chisel point and burrs have been removed from wire end to prevent wire from jamming in gun or liner.

- C. Feed the wire from the spool through the inlet guide, across the drive roll grooves and center guide into the outlet guide and EURO connection tube.

Make sure that the proper "outlet guide tube" is inserted into the front-panel gun fitting for the size and type of wire being used, see Table for wire feed accessories.

To ensure proper wire feeding, it is important that the wire be kept clean and that the drive rolls be periodically cleaned of any chips or scale that might be carried into the gun liner.

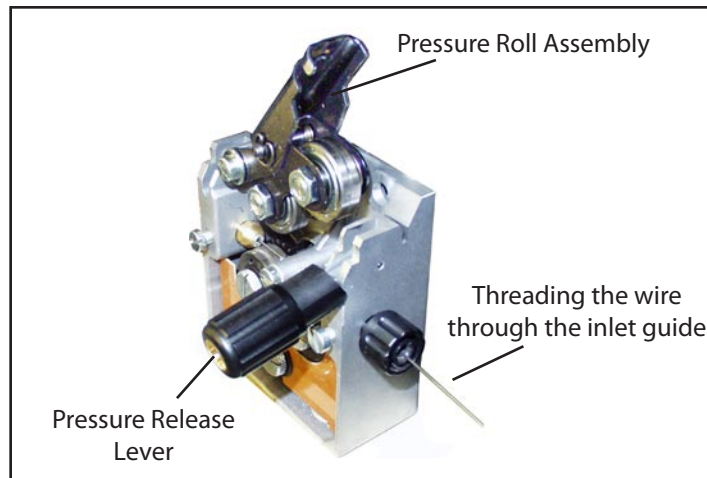
- D. Lower pressure roll assembly and secure. Turn the power "on" and feed wire through to gun tip using the gun trigger to start wire feeding.

### 3.7.4 SPOOL BRAKE DRAG ADJUSTMENT

Spool brake disc friction should provide enough drag to keep the wire spool from spinning freely after wire feed stops. If adjustment is required, turn the adjusting screw inside the spindle housing clockwise to increase drag or counterclockwise to decrease it. Drag should be just enough to limit wire overrun.

## WARNING

When the power switch is on, and gun trigger is depressed, the electrode wire becomes electrically hot, and the wire drive rolls will rotate.



**Figure 9 - Threading the Wire**

**WARNING**

Do not clamp regulator cap in a vise or grip it with a pair of pliers. Distortion of cap can jam the internal parts and cause excessively high delivery pressure as well as weaken the threaded joint to the regulator body. This may cause the cap to fly off and possibly injure personnel in area.

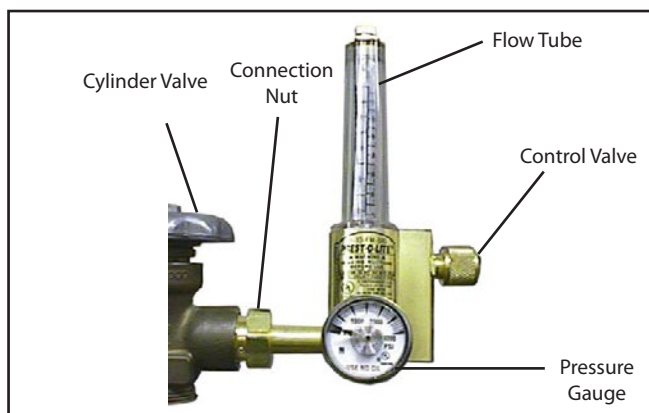


Figure 10 - R-33 Regulator

**WARNING**

Never stand directly in front of or behind the regulator when opening the cylinder valve. Always stand to one side.

### 3.8 CONNECTION OF SHIELDING GAS SUPPLY

#### 3.8.1 R-33-FM-580 Regulator

The R-33-FM-580 regulator is an adjustable regulator designed for use with Argon, Helium, and C-25 (75% Argon/25% CO<sub>2</sub>) gas service. Table 2 provides the recommended flow ranges for the R-33-FM-580 regulator.

<b>Argon</b>	<b>10-50 cfh</b>
<b>Helium</b>	<b>150-230 cfh</b>
<b>C-25</b>	<b>10-50 cfh</b>

Table 2 - Typical Flow Rates

- With the cylinder cap in place, CAREFULLY slide the cylinder of gas onto the Multimaster 260 cylinder rack.
- Secure the cylinder to the unit using the chain provided.
- Unscrew the cylinder cap.



- D. Open the cylinder valve slightly, for an instant, to blow out any dust or dirt that may have collected in the valve outlet. BE SURE to keep your face away from the valve outlet to protect your eyes.
- E. Attach the regulator to the cylinder valve. Align the regulator so that the flowmeter is vertical and then tighten the connection nut with a 1-1/8 in. open end or adjustable wrench. To prevent damaging the O-ring seals and plastic tube, do not use the flowmeter tube as a 'handle' when attaching the regulator.
- F. Close the flow control valve on the flowmeter.
- G. Attach the gas hose from the rear of the Multimaster 260 to the regulator outlet connection.
  
- H. Open the cylinder valve SLOWLY a fraction of a turn. This will prevent damage to the gauge and critical components in the regulator. When the gauge needle stops moving, then open the cylinder valve fully.
- I. Using a leak test solution, such as P/N 998771 (8 oz. ctr) or soapy water, test for leakage around the cylinder valve stem, the regulator inlet connection, and the hose connections at the regulator. Correct any leaks before starting work.

### **3.8.2 TO REGULATE FLOW**

Flow is controlled by adjusting the flowmeter valve until desired flow is indicated by the ball float in the flowmeter tube. Always take the reading across the TOP of the ball.



## **4.0 OPERATION**

### **WARNING**

**Comply with all ventilation, fire and other safety requirements for arc welding as established in the SAFETY Section at the front of this manual.**

### **4.1 STANDARD CONTROLS**

#### **4.1.1 POWER ON/OFF SWITCH & LAMP**

The main power switch is located on the front panel in the upper left-hand corner. This switch energizes the main transformer, control circuitry and illuminates the Power "ON" lamp. (Figures 12 & 13)

#### **4.1.2 FAULT LAMP (Figure 12)**

The fault lamp is configured for future use and is not currently activated.

#### **4.1.3 TEMP LAMP (Figure 12)**

The TEMP lamp illuminates if an over temperature condition occurs within the Multimaster 260. This condition may be caused by excessive duty cycle or over-current conditions. When an over temperature condition occurs, the welding output is turned off and the unit must be allowed to cool. The machine will automatically reset when the temperature falls to a safe level.

#### **4.1.4 PROCESS SELECTOR SWITCH (Figure 12)**

The three position process selector switch is located in the upper righthand corner of the control panel. The process selector switch provides the visual indication of which process (Mig, Tig or stick) has been selected.

#### **4.1.5 SECONDARY WELDING CONNECTIONS**

The secondary output welding terminals, POS (+) and NEG (-) are located in the lower right of the front panel, directly beneath the Euro Connector (Figure 13). See 4.4, 4.5, and 4.6 for Setup Guides for specific application.

#### **4.1.6 DIGITAL DISPLAYS (WFS, AMPS & VOLTS)**

The digital displays located on the left side of the control panel are multi-functional depending on the welding process being used.

#### **4.1.7 MIG WELDING**

In the Mig process mode, the digital displays will read preset wire feed speed in inches per minute and preset arc volts when the PRESET button is pressed. Once welding begins, the displays will show average welding current and volts in the top and bottom display, respectively. The displays have a "HOLD" circuit that retains the welding conditions. After welding stops, the display will continue to show the last welding current and voltage sampled for 10 seconds, then returns to "0".

### 4.1.8 TIG and STICK WELDING

In the TIG and STICK process mode, you must depress and hold the PRESET button while presetting the welding current in the top display. Releasing the preset button causes the display to return to zero. Once welding begins, the display will show average welding current and volts in the top and bottom display, respectively. After welding stops, the display will again return to zero. There is no "HOLD" circuit for the display when using the TIG and STICK process modes.

### 4.1.9 WIRE FEED SPEED CONTROL (Figure 12)

The wire feed speed control potentiometer allows wire feed speed adjustments between 65 and 675 inches per minute (IPM). Selecting the Mig process and pressing the PRESET switch allows the wire feed speed to be preset in the top digital display by turning the wire speed knob.

### 4.1.10 VOLTAGE/CURRENT TRIM (Figure 12)

The arc voltage is controlled with this knob when the Process selector switch is in the MIG position. The Mig arc voltage can be preset by pressing the preset button and reading the preset arc volts in the bottom digital display while turning this knob.

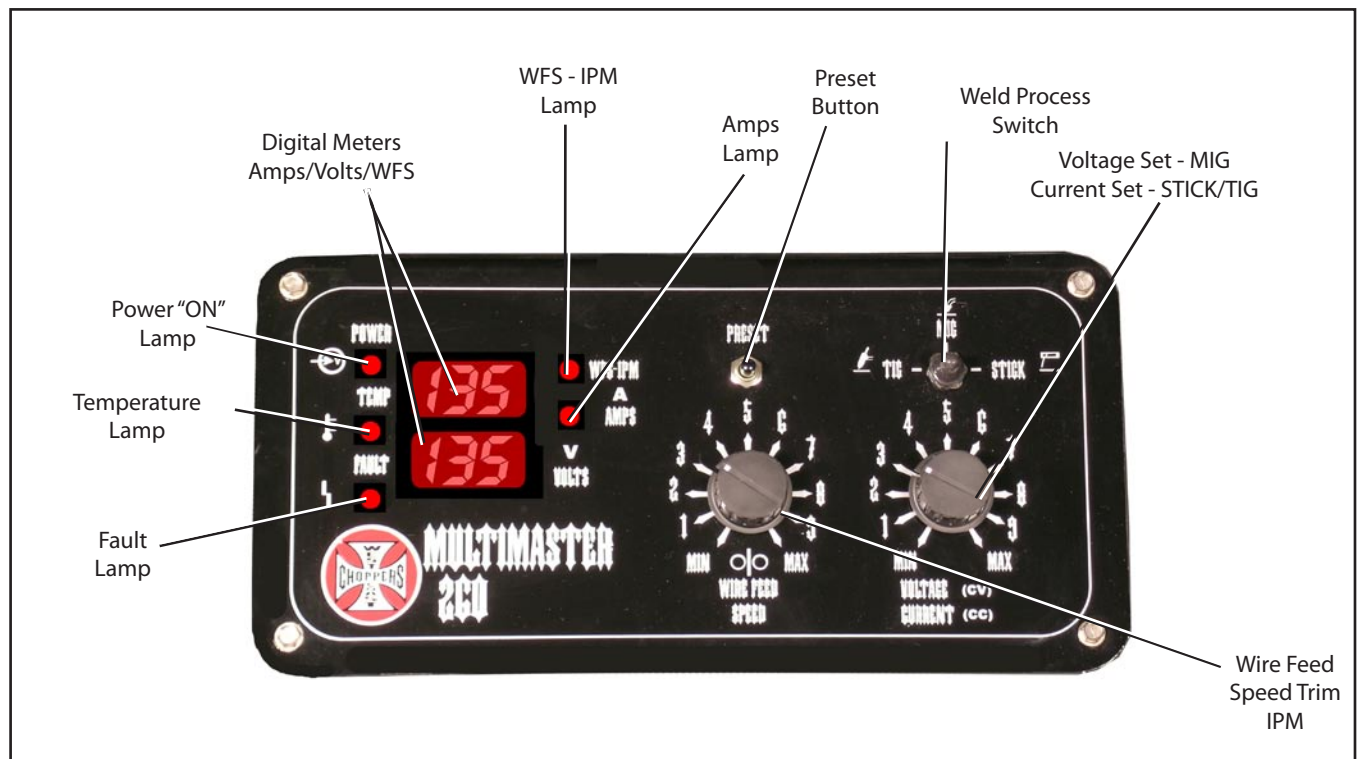
The arc current is controlled with this knob when the WELD PROCESS SWITCH is in the TIG or STICK position. The welding current can be preset in amperes by pressing the preset button and reading the preset amps in the top digital display while turning this knob. The actual arc voltage will be displayed during welding.

### 4.1.11 BURNBACK CONTROL (Figure 11)

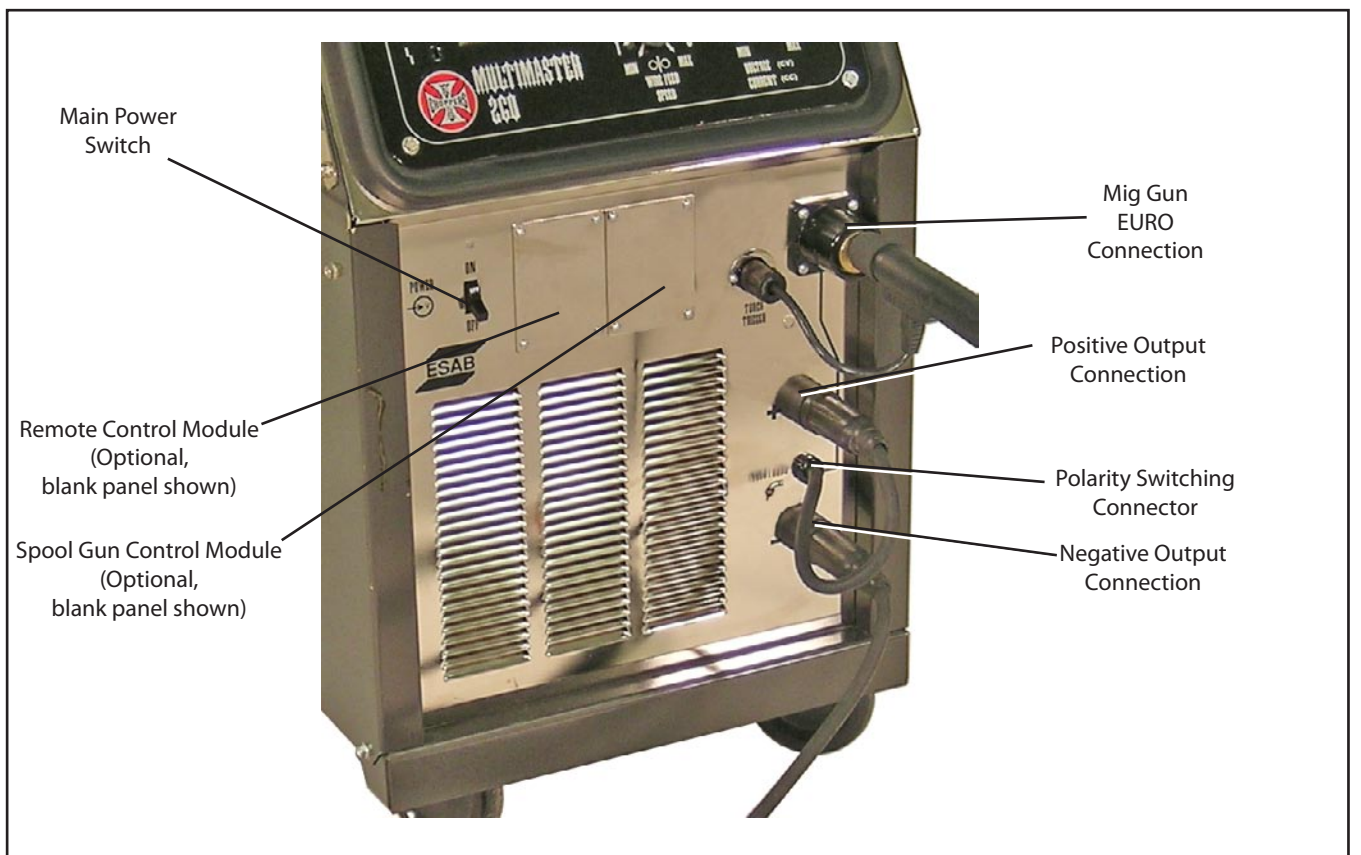
The burnback control is located inside the wire spool compartment above the wire feed motor. The control knob adjusts the time between when the wire feed brake is applied and the welding contactor is turned "off". This determines how far the wire will burnback towards the contact tip after welding is stopped. If the wire is sticking in the weld pool then turn the knob clockwise a small amount and retest. Continue this procedure until the wire clears the top of the weld pool or burns back the desired amount.



**Figure 11 - Burnback Control**



**Figure 12 - Control Panel**



**Figure 13 - Front Panel**

## 4.2 OPTIONAL CONTROLS

### 4.2.1 INDUCTANCE TRIM (OPTIONAL) P/N-0558002888 (Figure 14)

Inductance is used to optimize short circuiting arc performance by changing the current rise and fall time of each short circuit. This results in improved spatter control, weld bead wetting and arc stability. It is **HIGHLY RECOMMENDED** that the Inductance Trim option be used for optimum short arc welding performance with stainless steel wires.

The INDUCTANCE TRIM is installed inside the wire spool compartment, above the wire feed motor, to the left of the Burnback adjustment. The “easy to set” dial is calibrated by wire alloy (Carbon Steel and Stainless Steel) and Shielding gas:

100% CO<sub>2</sub>  
Argon - 25% CO<sub>2</sub>  
Argon - 8 to 15% CO<sub>2</sub>  
Trimix (Stainless Helium Mixtures)

The short circuiting Mig arc performance will change from a high short circuit frequency, fast reacting arc, to a lower short circuit frequency, soft and less spattering arc as the dial is turned clockwise. The optimized arc performances will vary depending on shielding gas, wire diameter and alloy. Gases and alloys other than those indicated can also be optimized with this control. The operator can adjust this control as desired to optimize personal preferences of welding characteristics.

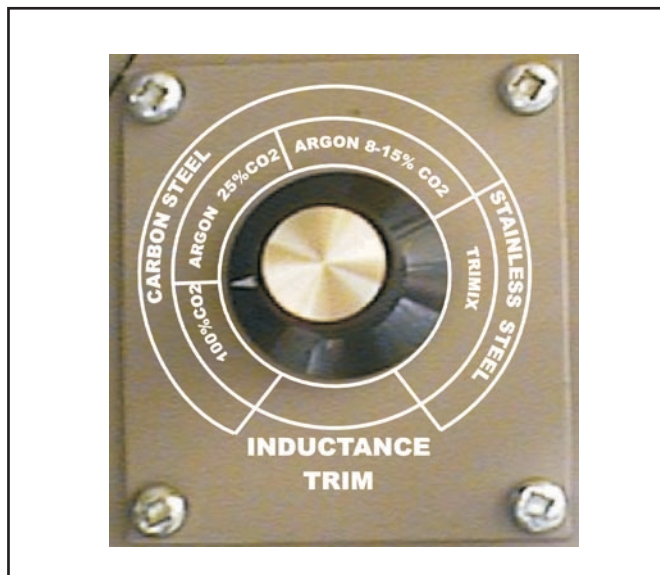
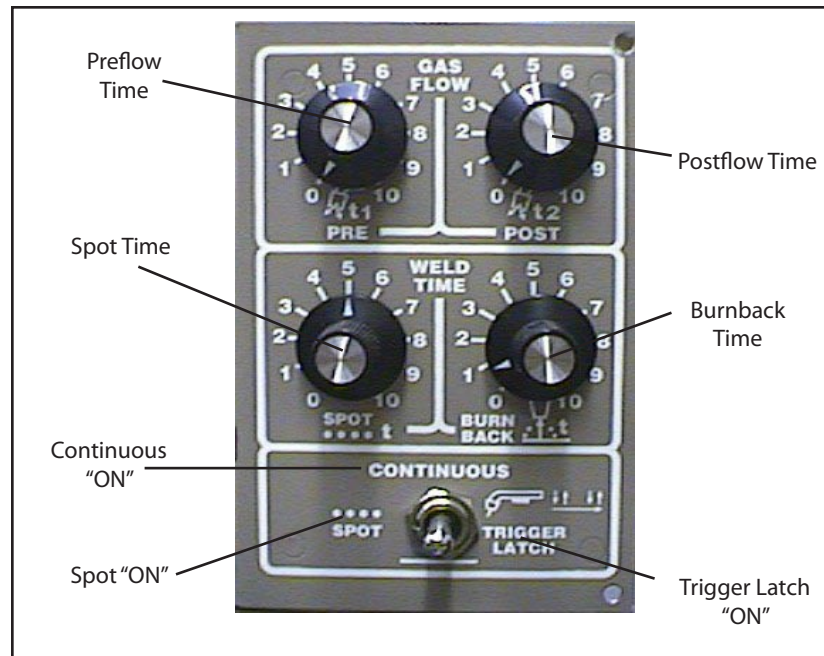


Figure 14 - Inductance Trim

#### 4.2.2 PREFLOW/POSTFLOW/SPOT/BURNBACK (OPTIONAL) P/N-0558002889 (Figure 15)

This optional control is mounted in place of the standard burnback control inside the wire spool compartment. A description of the module follows:

- A. Preflow/Postflow - The PREFLOW control sets the time of the preflow shielding gas before the wire starts feeding (0-1.5 sec.). The POSTFLOW control sets the time the shielding gas remains "ON" after the arc is turned "OFF" (0-7.5 sec.).
- B. Spot Weld Time - This dial sets the spot weld time from 0 to 5 seconds and is controlled by a current detect switch. The timer does not start until current is detected to insure consistent results.



**Figure 15 - Preflow/Postflow/Spot/Burnback**

- C. Burnback Timer - See 4.1.11
- D. Spot Weld Switch Position - With the toggle switch in the SPOT (left) position, the SPOT timer is turned "ON", and the spot weld time is controlled by the SPOT WELD TIMER dial.
- E. Continuous Position - With the toggle switch in the CONTINUOUS (center) position, the welding continues as long as the Mig gun trigger is depressed.
- F. Trigger Lock Position - With the toggle switch in the TRIGGER LOCK (right) position, the welding process begins when the gun trigger is depressed. Once the welding process has started, the gun trigger may be released without affecting the welding process. To stop the welding operation, the gun trigger must be depressed a second time. This allows a continuous weld without having to continuously depress the gun trigger.



### 4.2.3 REMOTE CONTROL MODULE (OPTIONAL) P/N-0558002605 (Figure 16)

This optional control panel mounts to the front of the power source to the right of the main power switch (see Figure 13). The remote receptacle can be used for a variety of options, such as a Tig current control, foot pedal control or manual hand current control. The module includes a toggle switch to select between PANEL or REMOTE control of the welding current and contactor. See Instruction Literature F15-618.



Figure 16 Remote Control Module

### 4.2.4 SPOOL GUN CONTROL MODULE (OPTIONAL) P/N-0558002606 (Figure 17)

This module mounts to the front panel just left of the Mig Gun trigger connectors and allows the use of either the MT-250-SG or ST-23A spool guns with the Multimaster 260. The module has a switch to select either spool gun or regular Mig gun operation. See Table 3 for MIG Spool Gun Parameters. See Instruction Literature F15-619.



Figure 17 - Spool Gun Control Module



## 4.3 MIG WELDING SET-UP

When the PROCESS switch is placed in the MIG position the Multimaster 260 is set to turn "ON" when the Mig Gun trigger is depressed.

Step 1. Choose the weld parameters based of the wire alloy, diameter, material thickness and shielding gas from Table 3 - MIG PARAMETERS CHART. Set the polarity as shown in Table 3 for the process being used.

Step 2. Place the WELD PROCESS ① switch in the MIG (center) position then press the PRESET button.

Step 3. Turn the Wire Speed Knob ③ to the desired speed in the top digital display window.

Step 4. Turn the VOLTAGE ④ knob to the desired arc voltage in the bottom digital display window.

Step 5. Set the shielding gas flow rate to 35 cfh by pulling the gun trigger and turning the adjustment knob on the R33-FM 580 Flowmeter.

Step 6. Pull the gun trigger and start welding. Trim the wire speed and volts as needed for the desired arc characteristics.

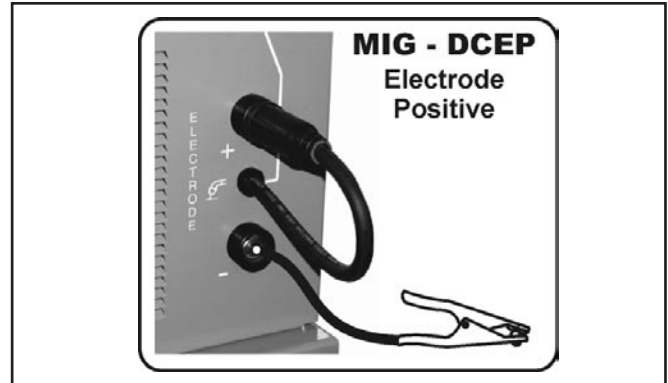


Figure 18 - MIG Polarity Connection

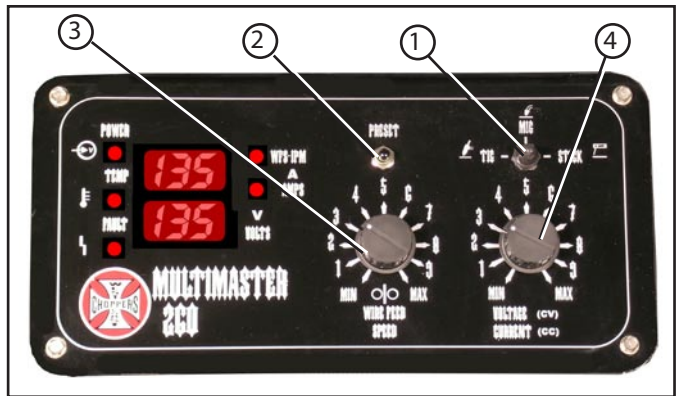


Figure 19 - Mig Front Control Panel

Table 3 - MIG PARAMETERS CHART

Table Legend														
Wire Feed Speed														
Volts														
	Material Thickness	Gauge	22ga.	20ga.	18ga.	16ga.	14ga.	12ga.	11ga.	10ga.	3/16"	1/4"	5/16"	3/8"
		Inches	.030"	.036"	.048"	.060"	.075"	.105"	1/8"	.135"	4.8mm	6.4mm	8.0mm	9.6mm
		Metric	.8mm	.9mm	1.2mm	1.5mm	1.9mm	2.7mm	3.2mm	3.5mm				
Shield Gas 100% Argon	ALUMINUM 4000 Series	.030 Spool Gun .8mm				165*	185*	220*	275*	320*				
						22	22	23	23	24				
	ESAB 4043HQ ESAB 4047HQ	.035 Spool Gun .9mm				155*	200*	255*	275*	300*	360*	375*		
						22	23	24	24	25	26	26		
		3/64" Standard Gun 1.2mm				215	290	320	350	370	430			
						24	26	26	26	27	28			
Shield Gas 100% Argon	ALUMINUM 5000 Series	.030 Spool Gun .8mm				250*	340*	440*	540*	555*	565*			
						21	21	22	22	22	23			
	ESAB 5356HQ ESAB 5556HQ ESAB 5183HQ	.035 Spool Gun .9mm				250*	275*	310*	400*	440*	510*	565*		
						21	22	22	23	23	23	24		
		3/64" Standard Gun 1.2mm							220	280	320	380	400	
									22	23	25	25	26	
Shield Gas Argon-25% CO <sub>2</sub>	CORED WIRE Dual Shield R70, 7000 7100 II 70 Ultra II 71	.035" .9mm							280	380	460	600	700	
									22	25	26	27	28	
No Shield Gas Required		.045" 1.2mm							200	300	400	500		
									28	29	30	33		
No Shield Gas Required	Self-Shielding CORED WIRE	.035" .9mm				80	110	150	170	220	360			
						15	16	16	17	17	17			
No Shield Gas Required	CoreShield 15	.045" 1.2mm				54	70	80	100	125	130	130		
						15	16	16	17	18	18	18		

Note 1: When using 100% CO<sub>2</sub> shielding gas, add 2 volts to the data table value.

Table 3 - MIG PARAMETERS CHART (Cont'd)

Table Legend

Wire Feed Speed Volts	Material Thickness	Gauge	22ga.	20ga.	18ga.	16ga.	14ga.	12ga.	11ga.	10ga.	3/16"	1/4"	5/16"	3/8"
		Inches Metric	.030" .8mm	.036" .9mm	.048" 1.2mm	.060" 1.5mm	.075" 1.9mm	.105" 2.7mm	1/8" 3.2mm	.135" 3.5mm	4.8mm	6.4mm	8.0mm	9.6mm
Shield Gas 75% Argon/25% CO <sub>2</sub>  For 100% CO <sub>2</sub> see note 1  Polarity - DCEP (Electrode Positive)	CARBON STEEL	.023 .6mm	200 15	200 15	250 16	300 16	350 17	375 18	400 19					
	Spoolarc 82 E70S-3	.030 .8mm			90 14	130 15	180 15	230 16	280 16	330 17	400 18	500 19		
	Spoolarc 85 E70S-4	.035 .9mm			85 15	120 15	160 16	200 16	240 17	280 17	320 18	360 19	400 20	
	Spoolarc 87 E70S-7													
	Spoolarc 86 E70S-6	.045 1.2mm			80 16	100 16	120 17	140 18	160 19	180 19	200 20	220 21	240 22	270 23
Shield Gas Helium TriMix  For thicknesses above 3/16" use 98% Argon - 2% CO <sub>2</sub>  Polarity - DCEP (Electrode Positive)	STAINLESS STEEL	.030 .8mm				185 19.5	195 20	230 21	250 21	280 21				
	Arcaloy 308L 309 316	.035 .9mm				180 20	230 21	300 21	325 22	350 22	400 25	450 25.5	475 26	
		.045 .9mm				180 20	230 21	300 21	325 22	350 22	400 25	450 25.5	475 26	

Note 1: When using 100% CO<sub>2</sub> shielding gas, add 2 volts to the data table value.

#### 4.4 TIG WELDING SETUP

When the PROCESS switch is placed in the TIG position, the Multimaster 260 turns "ON" the weld contactor so that power is immediately available to the output connection. The Touch TIG starting system is then enabled.

Step 1. Determine the weld parameters based on the metal thickness in Table 4 or use the ESAB TIG Welding Handbook (optional) for suggested welding parameters.

Step 2. Be sure to set the polarity to DCEN (Electrode Negative) by placing the Heliarc Torch in the Negative connection terminal on the front of the power source as shown in Figure 20.

Step 3. Place the WELD PROCESS ① switch in the TIG (left) position.

### CAUTION

When the WELD PROCESS switch is moved to the TIG or STICK position, electrode becomes electrically "HOT". Do not allow the electrode to contact ground potential until you are ready to make a weld.

Step 4. While holding the PRESET ② button, turn the VOLTAGE/CURRENT knob to the desired weld current on the top digital display window.

Step 5. Set the shielding gas flow rate to 20 cfh by opening the manual gas valve on the Heliarc torch and adjusting the control knob on the R-33-FM-580 flowmeter.

Step 6. Touch the tungsten electrode to the workpiece momentarily to establish the welding arc. Trim the current as desired by turning the VOLTAGE/CURRENT ④ knob.

NOTE: The Wirespeed (3) knob has no effect in the TIG mode.

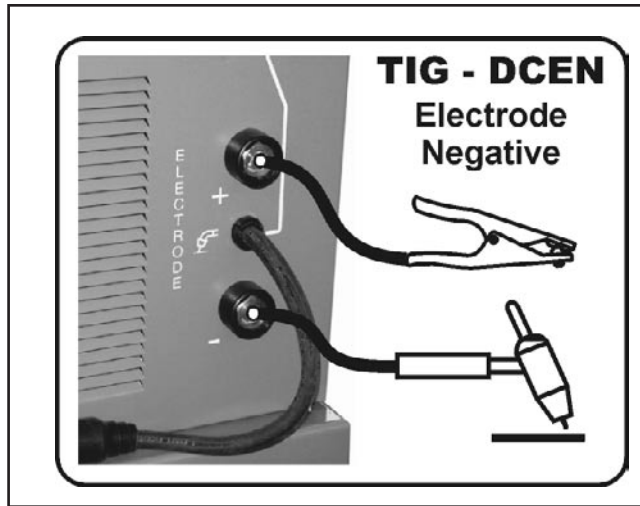


Figure 20 - TIG Polarity Connection

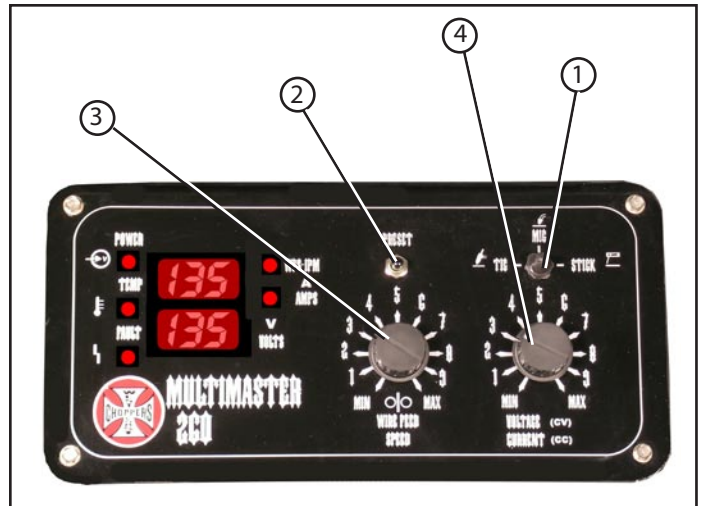


Figure 21- TIG Front Control Panel

Table 4 - TIG PARAMETERS CHART

Material Thickness Type	Gauge	22ga.	20ga.	18ga.	16ga.	14ga.	12ga.	11ga.	10ga.				
	Inches	.030"	.036"	.048"	.060"	.075"	.105"	1/8"	.135"	3/16"	1/4"	5/16"	3/8"
	Metric	.8mm	.9mm	1.2mm	1.5mm	1.9mm	2.7mm	3.2mm	3.5mm	4.8mm	6.4mm	8.0mm	9.6mm
CARBON STEEL & STAINLESS STEEL		35	45	55	75	85	95	110	130	185	225	250	

**WARNING**

Comply with all ventilation, fire and other safety requirements for arc welding as established in the **SAFETY** Section at the front of this manual.

## 4.5 HANDLING THE TIG TORCH

### Starting the Arc

There is nothing difficult or technical about starting an arc in the proper manner. We recommend the particular procedure outlined briefly below, to ensure maximum protection of the workpiece from the atmosphere at the start of welding operations. In DC welding, when striking an arc the electrode must touch the workpiece in order for the arc to start. As soon as the arc is struck, withdraw the electrode approximately 1/8 inch above the workpiece to avoid contaminating the electrode in the molten puddle.

To strike an arc, first turn on the power supply and hold the torch in a horizontal position about 1 inch above the workpiece or starting block, as shown in Example A below. Then quickly swing the end of the torch down toward the workpiece, so that the end of the electrode touches the plate. The arc will then strike. Once the electrode “scratches” the plate retract the torch approximately 1/8”. This will establish the arc.

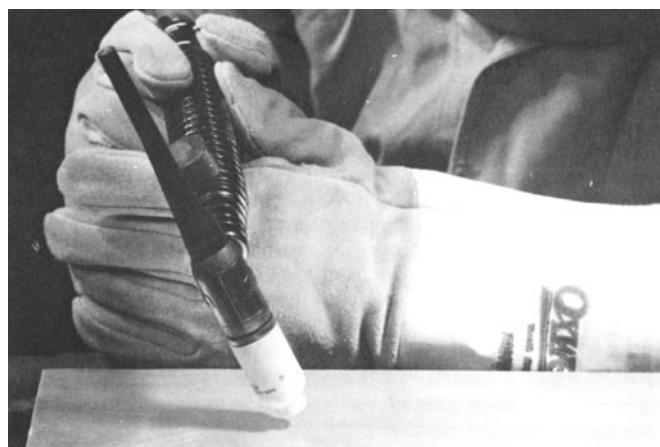
The arc can be struck on the workpiece itself or on a heavy piece of copper or scrap steel, and then carried to the starting point of the weld. Do not use a carbon block for starting the arc, as the electrode becomes contaminated causing the arc to wander. When starting to weld with a hot electrode, the action must be very rapid as the arc tends to strike before the torch is in proper welding position.

To stop an arc, merely snap the electrode quickly back up to the horizontal position. This motion must be made rapidly so the arc will not mar or damage the weld surface or workpiece.

The use of hand or foot controls allows the operator to strike the arc, vary welding current and terminate the arc without moving the torch. This is strongly recommended for proper TIG welding.



Example A



Example B

## 4.6 STICK WELDING SET-UP

When the PROCESS switch is placed in the STICK position, the Multimaster 260 turns “ON” the weld contactor so that power is immediately available to the output connection. This means that the STICK electrode holder is “HOT”, and an arc will strike when the electrode comes in contact with the workpiece or any other object at ground potential.

- Step 1. Choose the weld parameters based on the Stick Electrode and diameter being used from Table 5 - STICK PARAMETERS CHART.
- Step 2. Be sure to set the polarity to DCEP (Electrode Positive) by placing the Electrode Holder cable in the Positive connection terminal on the front of the power source.
- Step 3. Place the WELD PROCESS **①** switch in the STICK (right) position.
- Step 4. While holding the PRESET button, turn the VOLTAGE/CURRENT **④** knob to the desired weld current in the top digital display window.

### CAUTION

When the WELD PROCESS switch is moved to the TIG or STICK position, electrode becomes electrically “HOT”. Do not allow the electrode to contact ground potential until you are ready to make a weld.

- Step 5. Strike the electrode and start welding. Trim the welding current as needed for the desired puddle control.

NOTE: The Wirespeed **③** knob has no effect in the STICK mode.

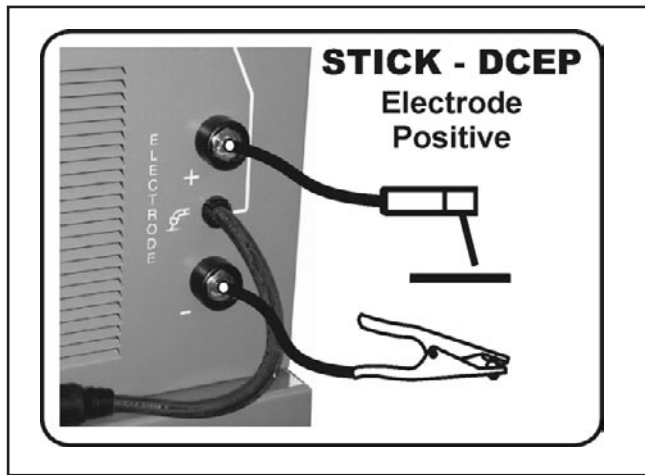


Figure 22 - STICK Polarity Connection

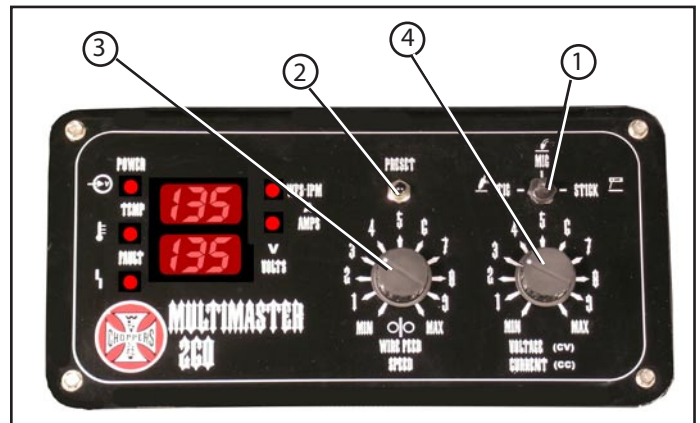


Figure 23 - STICK Front Control Panel

NOTE: Due to built in “Arc Force” control the “Actual” current while welding may differ from the “Pre-set” value. If the welding voltage falls below 23 volts, the actual welding current will be greater than the preset value.

Table 5 - STICK PARAMETERS CHART

	Electrode Diameter Type	Inches (mm)	3/32 (2.4)	1/8 (3.2)	5/32 (4.0)	3/16 (4.8)
CARBON STEEL	Sureweld 10P	E6010	65-75	80-110	130-170	150-210
	Sureweld SW-15	E6013	60-90	120-135	145-190	170-230
	Sureweld SW-15IP	E7014	70-100	100-150	160-200	190-270
	Sureweld 7024	E7024		130-180	180-240	250-270
	Atom Arc7018	E7018	70-100	90-160	130-220	200-270
STAINLESS STEEL	Arcaloy 308L	E308L	40-70	70-100	100-145	130-190





## 5.0 MAINTENANCE

### 5.1 MAINTENANCE AND SERVICE

#### **WARNING**

BE SURE THAT THE BRANCH CIRCUIT OR MAIN DISCONNECT SWITCH AND MULTIMASTER POWER SWITCH ARE OFF OR ELECTRICAL INPUT FUSES ARE REMOVED BEFORE ATTEMPTING ANY INSPECTION OR WORK INSIDE THE POWER SOURCE. PLACING THE POWER SWITCH ON THE POWER SOURCE IN THE OFF POSITION DOES NOT REMOVE ALL POWER FROM INSIDE THE EQUIPMENT.

#### **WARNING**

INSPECTION, TROUBLESHOOTING AND REPAIR OF THIS EQUIPMENT MAY ORDINARILY BE UNDERTAKEN BY A COMPETENT INDIVIDUAL HAVING AT LEAST GENERAL EXPERIENCE IN THE MAINTENANCE AND REPAIR OF SEMI-CONDUCTOR ELECTRONIC EQUIPMENT. MAINTENANCE OR REPAIR SHOULD NOT BE UNDERTAKEN BY ANYONE NOT HAVING SUCH QUALIFICATIONS.

Shut OFF shielding gas supply at source.

### 5.2 INSPECTION AND SERVICE

Keep equipment in clean and safe operating condition free of oil, grease, and (in electrical part) liquid and metallic particles which can cause short circuits.

Regularly check cylinder valves, regulators, hoses, and gas connections for leaks with soap solution or leak test solution (P/N 998771).

Check for and tighten loose hardware including electrical connections. Loose power connections overheat during welding.

Immediately replace all worn or damaged power cables and connectors. Check for frayed and cracked insulation, particularly in areas where conductors enter equipment.

The electrode wire and all metal parts in contact with it are electrically energized while welding. Inspect these parts periodically for defective insulation and other electrical hazards.

#### **WARNING**

IF UNINSULATED CABLE AND PARTS ARE NOT REPLACED, AN ARC CAUSED BY A BARE CABLE OR PART TOUCHING A GROUNDED SURFACE MAY DAMAGE UNPROTECTED EYES OR START A FIRE. BODY CONTACT WITH A BARE CABLE, CONNECTOR, OR UNCOVERED CONDUCTOR CAN CAUSE A FATAL SHOCK.

Keep power cables dry, free of oil and grease, and protected at all times from damage by hot metal and sparks. Clean dirt and metal particles from drive roll groove weekly; replace roll if badly worn.



### **5.2.1 POWER SOURCE**

#### **5.2.1.1 RECTIFIERS AND TRANSISTORS**

It is recommended that the internal components be cleaned occasionally by blowing them out with low pressure compressed air. This cleaning operation is necessary so that maximum cooling will be accomplished by the air stream. This should be done periodically, depending upon the location of the unit and the amount of dust and dirt in the atmosphere.

The hermetically sealed diodes and transistors are specially designed for welding machine use and will not age or deteriorate with use. The rectifiers are mounted on heat sinks. A periodic cleaning of dust and dirt from these is necessary to insure cooling of the rectifiers. Should any rectifier need replacement, it can be quickly removed from the heat sink.

#### **5.2.1.2 FAN MOTOR**

All models are equipped with an exhaust fan and rely on forced draft for adequate cooling for high duty cycles and overloads.

### **CAUTION**

**Do not use filters on this unit as they would restrict the volume of intake air. Output ratings on this unit are based on an unobstructed supply of cooling air drawn over its internal components. Warranty is void if any type of filtering device is used.**

#### **5.2.1.3 TRANSFORMER**

Occasional blowing out of the dust and dirt from around the transformer is recommended. This should be done periodically depending upon the location of the unit and the amount of dust and dirt in the atmosphere. The Power Source case cover should be removed and a clean, dry low pressure air stream should be used for this cleaning operation.

#### **5.2.1.4 OVER-TEMPERATURE PROTECTION**

The Power Source is protected from high internal temperatures by thermal switches. When the Power Source is operated under high current applications for long periods, the thermal switches may reach a high temperature causing it to de-energize the contactor. These thermal switches will reset automatically after the heat sink or transformer windings have cooled to a safe level. While de-energized, the contactor can not be operated. But, if the gun trigger is depressed, the unit will still feed wire and the solenoid will operate.

### **5.2.2 WIRE FEEDER**

As soft wire is fed, the drive rolls may pick up metal from the wire surface. Accumulation on the rolls may score the wire with resulting unwanted friction and improper feeding.

Inspect the rolls regularly and clean them with a fine-wire power brush. Avoid roughening, or removing the hardness of groove surfaces in grooved rolls. Any roughening may score the wire, just as the accumulation being removed may do.

### **NOTE:**

**Schematics and Wiring Diagrams on 11" x 17"  
paper are included  
inside the back cover of this manual.**

## **6.0 REPLACEMENT PARTS**

### **6.1 GENERAL**

Always provide the serial number of the unit on which the parts will be used. The serial number is stamped on the unit nameplate.

### **6.2 ORDERING**

To ensure proper operation, it is recommended that only genuine ESAB parts and products be used with this equipment. The use of non-ESAB parts may void your warranty.

Replacement parts may be ordered from your ESAB Distributor.

Be sure to indicate any special shipping instructions when ordering replacement parts.

Refer to the Communications Guide located on the back page of this manual for a list of customer service phone numbers.

#### **Note**

Bill of material items that have blank part numbers are provided for customer information only.  
Hardware items should be available through local sources.

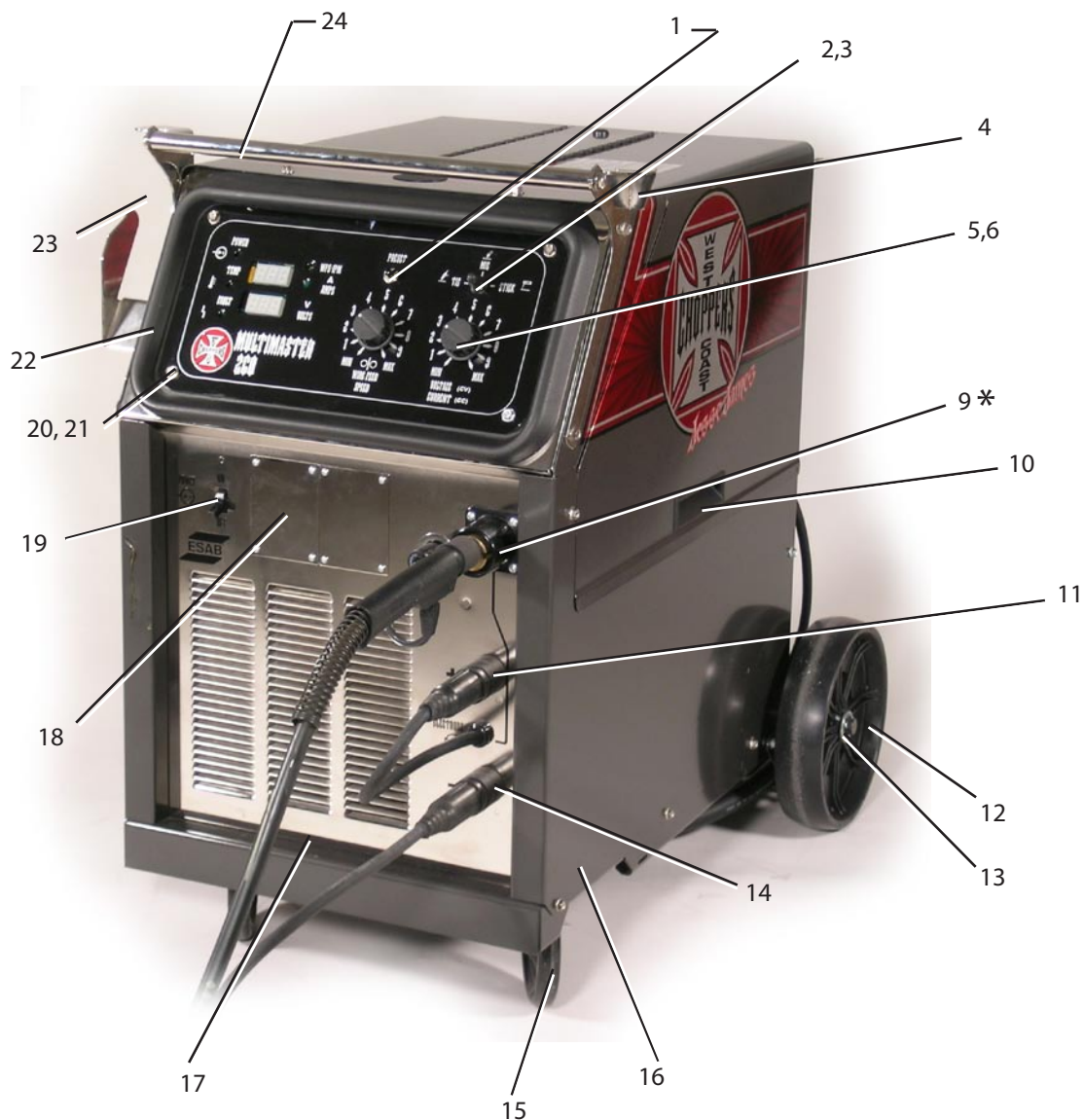
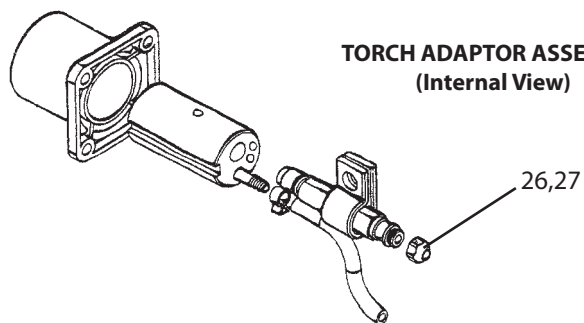


Figure 24 - Right Side Front View



\* TORCH ADAPTOR ASSEMBLY  
(External View)



TORCH ADAPTOR ASSEMBLY  
(Internal View)

Figure 24 - Right Side Front View (Con't)

No.	QTY. REQ.	ITEM NO.	DESCRIPTION	CIRCUIT SYMBOL
1	952895	1	SWITCH PB NORMALLY OPEN	S2
2	672831	1	SWITCH TOGGLE SPDT	S3
3	951474	1	SWITCH SEAL BLACK	
4	0558005430	1	BRACKET RH HANDLE	
5	13730632	2	POT LIN 10.0K 2.00W .88L	R1,R2
6	0558001019	2	KNOB 1.57 DIA. 0	
7				
8				
9	0558001082	1	COMPACT/NAS TORCH ADAPTOR <i>includes:</i>	
	23610528	1	HOUSING	
	0558001837	1	O-RING	
	23612350	1	POWER LUG	
	0558001836	1	CONNECTION TUBE NUT	
10	0558001854	2	RECESSED HANDLE	
11	0558002550	1	POLARITY CABLE ASSEMBLY (plug - p/n 13733936)	
12	0558001576	2	WHEEL SPOKE 10" x 2.252" POLY	
13	0558001699M	1	AXLE REAR	
14	13733935	2	PANEL RECEPT	
15	950396	2	CASTER WHEEL	
16	0558002592M	1	COVER BOTTOM RIGHT	
17	0558005427	1	COVER BOTTOM FRONT	
18		1	REMOTE CONTROL & SPOOL GUN (OPTIONS NOT SHOWN)	
19	0558001574	1	SWITCH POWER 40A 600V	S1
20	0558002542	1	PANEL CONTROL KYDEX	
21	0558954007	1	OVERLAY FRONT PANEL MM260 JESSE JAMES	
22	0558001033	1	PCB BOX	
23	0558001702Y	1	BRACKET LH HANDLE	
24	0558005428	1	HANDLE SHAFT NICKEL-PLATED	
25				
26	0558001836	1	NUT, CONNECTION TUBE	
27	0558001837	1	O-RING	

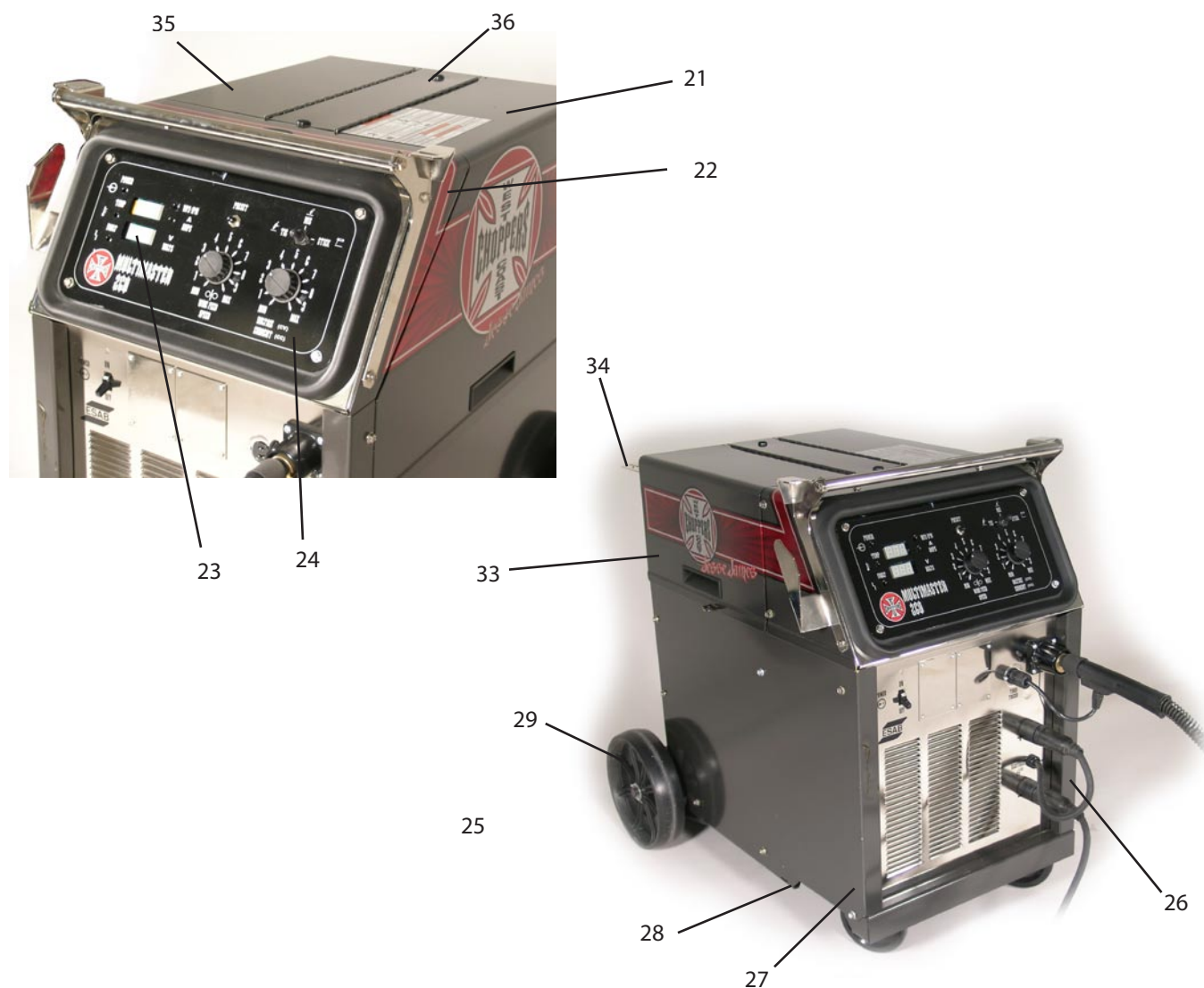


Figure 25 - Left Side Front View of Multimaster 260

No.	QTY. REQ.	ITEM NO.	DESCRIPTION	CIRCUIT SYMBOL
21	0558001692M	1	DOOR TOP LEFT (HINGE & HINGE BRACKET NOT INCLUDED)	PCB2 PCB1
22	0558002593M	1	COVER TOP FRONT	
23	38196	1	PCB ASSY. DISPLAY	
24	38182	1	PCB CONTROL MAIN	
25				
26	0558002592M	1	COVER BOTTOM RIGHT	
27	0558002544M	1	COVER BOTTOM LEFT	
28	0558001686M	1	BASE PLATE	
29	0558001696M	1	CYLINDER TRAY	
30				
31				
32				
33	0558002546M	1	TOOL BOX DOOR (HINGE & HINGE BRACKET NOT INCLUDED)	
34	0558001856M	2	UPPER CYLINDER SUPPORT BRACKET	
35	0558001692M	2	DOOR HINGE BRACKET	
36	0558002545M	1	REAR TOP COVER	

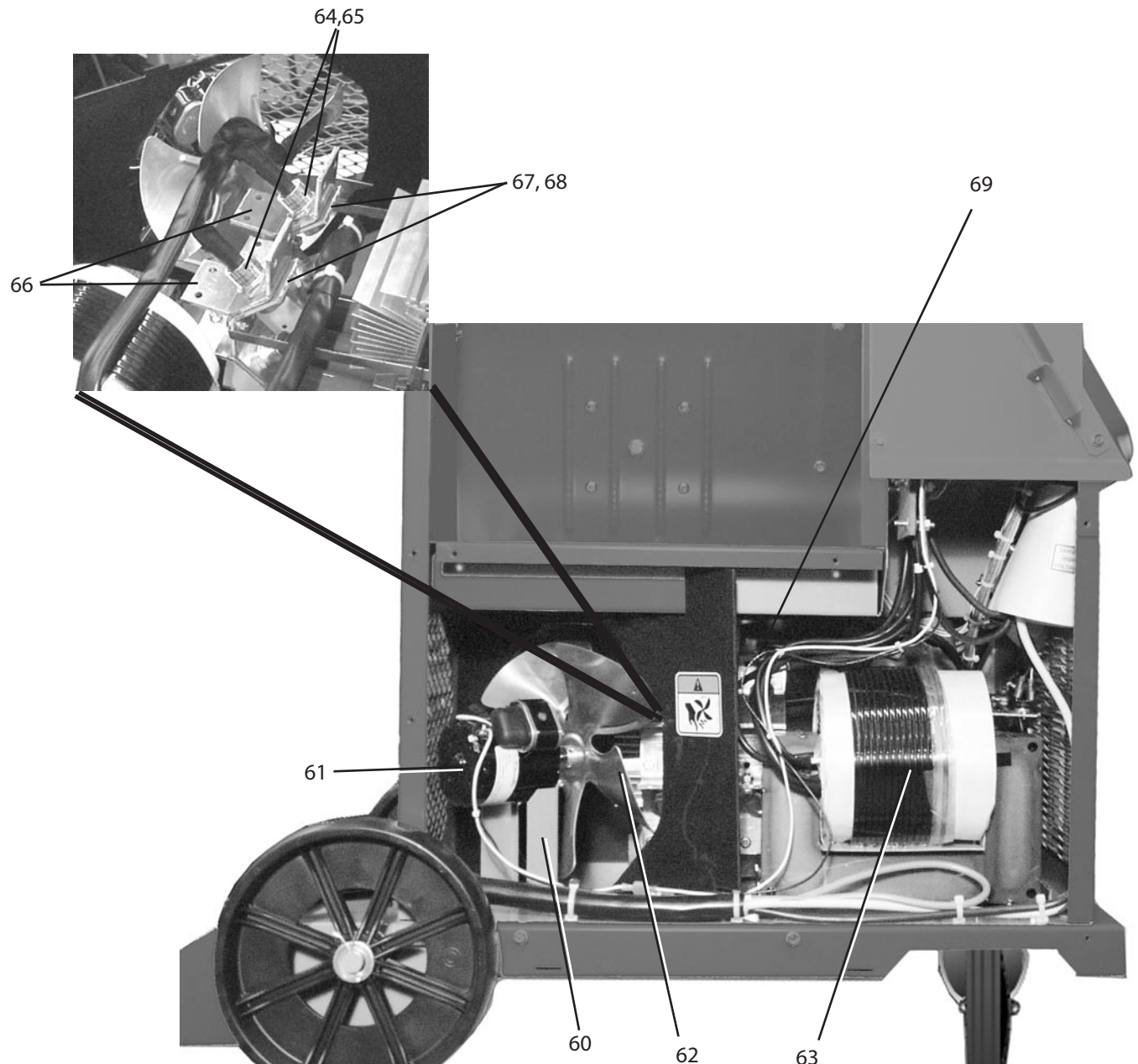


Figure 26 - Inside Left View of Multlimaster 260

No.	QTY. REQ.	ITEM NO.	DESCRIPTION	CIRCUIT SYMBOL
60	0558001710M	1	FAN MOUNT	M1
61	0558002490	1	MOTOR	
62	950592	1	FAN BLADE	
63	0558001577	1	MAIN TRANSFORMER 208/230V	T1
	0558001580	1	MAIN TRANSFORMER - 230/460/575V	T1
64	99511915	2	DIODE REV 200V 250A	D1,2
65	99511916	2	DIODE FWD 200V 250A	D3,4
66	0558002562	4	DIODE HEATSINK, SMALL	TS2
67	0558002563	2	DIODE HEATSINK	
68	9510711	1	THERMAL SWITCH	
69	951085	1	THERMAL SWITCH	
				TS1



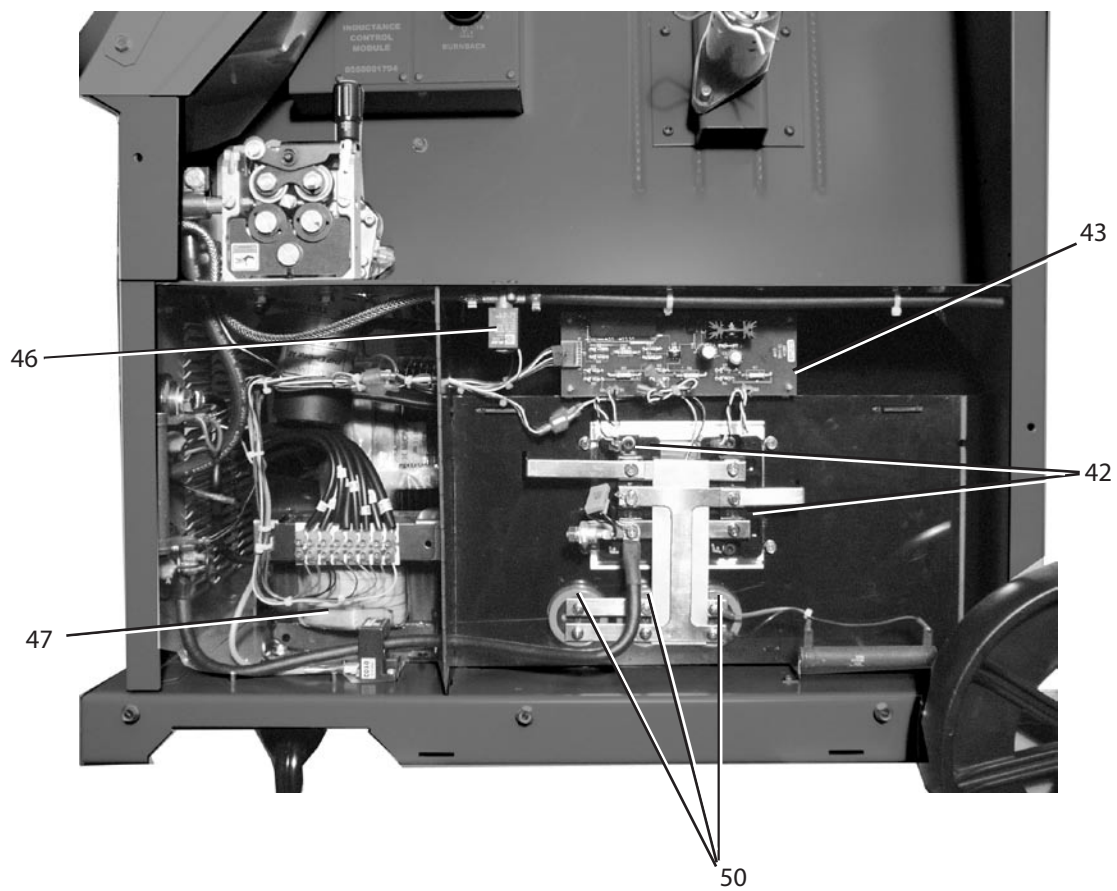
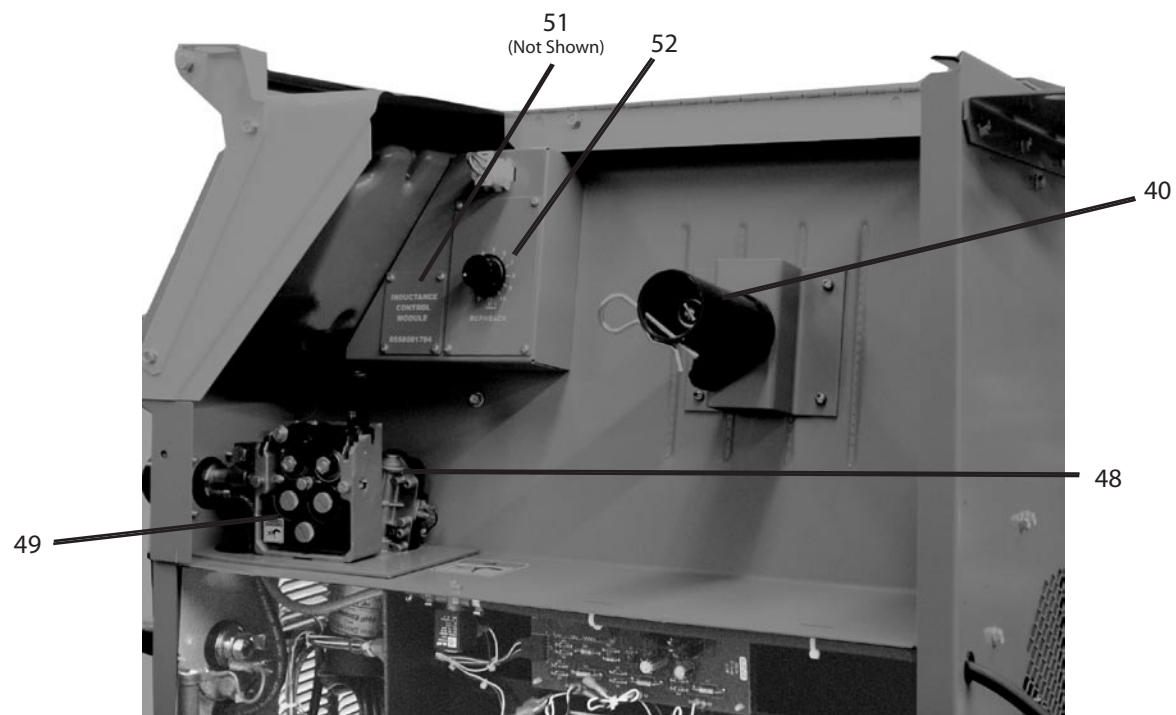






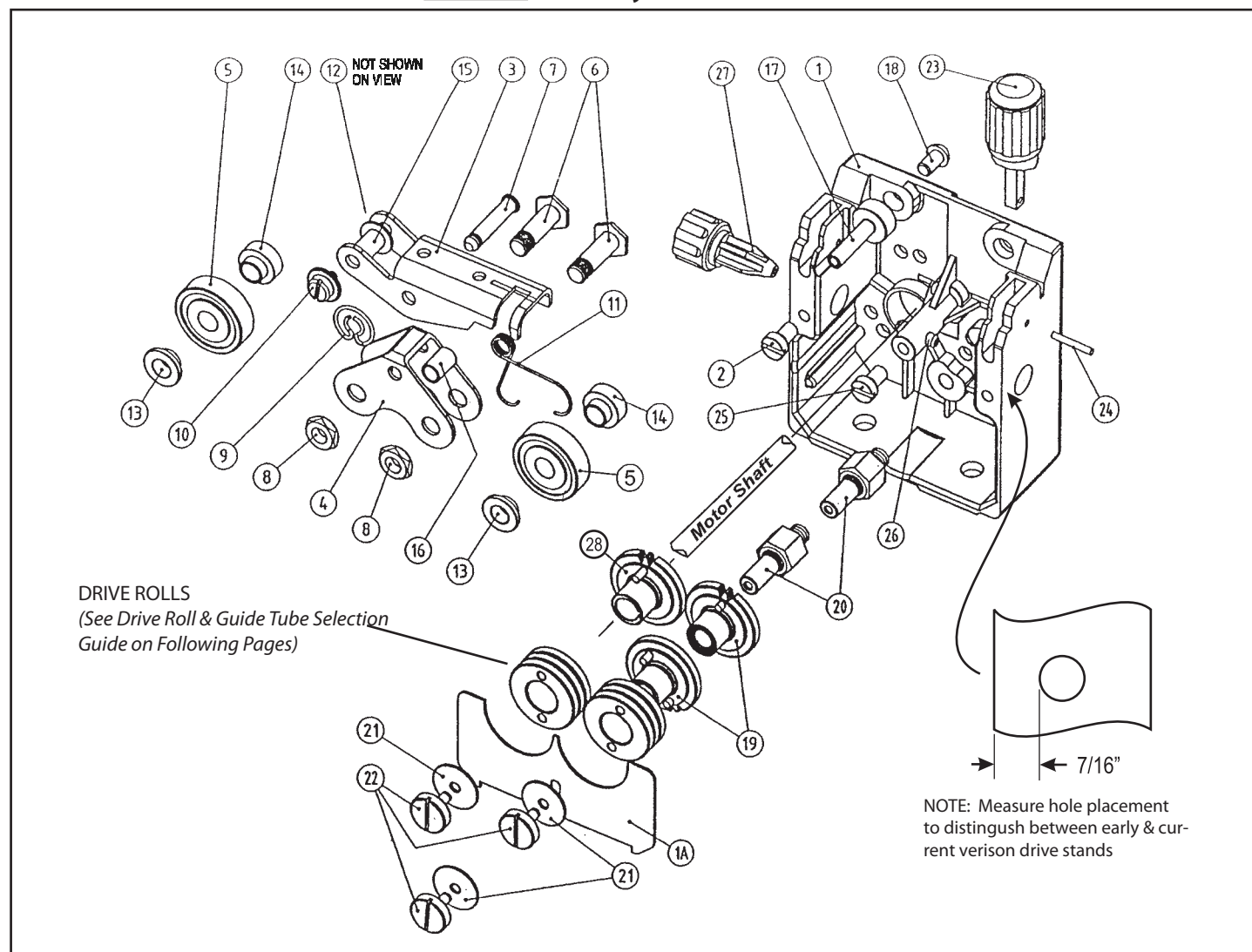
Figure 27 - Inside Right &amp; Rear View of Multimaster 260 (cont.)

No.	QTY. REQ.	ITEM NO.	DESCRIPTION	CIRCUIT SYMBOL
40	1	948258	SPINDLE MOLDED (SEE FIGURE 28)	Q1-2 PCB3
41	1	0558002543M	REAR COVER	
42	1	0558003076	TRANSISTOR REPLACEMENT KIT IGBT MATCHED PAIR 600V - 300A	
43	1	38186	PCB ASSY. DRIVER	
44	1	0558001893	POWER CABLE 208/230V	SOL1 L1 M2
	1	0558002081	POWER CABLE 230/460/575V	
45	1	0558001696M	CYLINDER TRAY	
46	1	951634	SOLENOID 24	
47	1	0558002556	INDUCTOR	C1,2,3
48	1	0558002558	DRIVE MOTOR	
49	1	0558001339	COMPACT 4 ROLL WDS	
50	3	0558001534	CAPACITORS	
51	1	--	INDUCTANCE CONTROL (OPTIONAL)	
52	1	--	BURNBACK CONTROL MODULE (OPTIONAL)	

## SECTION 6

## REPLACEMENT PARTS

For units with serial numbers **xxxJ230001** (Mid July 2002 forward)



**Figure 28 - Auto-Lift Mini Four Roll Geared Wire Drive System - 0558001339**  
For units with serial numbers starting **xxxJ230001** (Mid July 2002 forward)

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	0558001743	Feed Plate	1	15	0558001752	Spacer Tube Pressure Arm Auto Lift	1
1A	0558001744	Safety Guard	1	16	0558001753	Spacer Tube Bogie	1
2	952927	Screw, Thumb (M6X12)	1	17	0558001754	Axle Pressure Arm	1
3	0558001745	Pressure Arm	1	18	0558001755	Allen Screw	1
4	0558001746	Bogie	1	19	23612386	Gear Adaptor Feed Roll	2
5	23612368	Pressure Roll	2	20	0558001756	Axle Gear Adaptor Feed Roll	2
6	23612477	Axle Pressure Roll	2	21	34608	Washer, Retaining Screw	3
7	0558001747	Locating Pin	1	22	952925	Knurled Screw	3
8	23612474	Nut, Pressure Roll Axle	2	23	23612460	Pressure Device W/Scale	1
9	23612472	Circlip	1	24	23612470	Locating Pin, 2.5 x 12 Pressure Device	Pkt. 5
10	34609	Retaining Screw Pressure Arm	1	25	23612462	Screw Intermediate Guide	1
11	0558001748	Spring Bogie Auto Lift	1	26	0558001757	Center Guide (Hard Wire)	1
12	0558001749	Spring to Pressure Arm Auto Lift	1		0558001895	Center Guide for (Aluminum)	1
13	0558003538	Spacer Tube, Small	2	27	0558003544	Inlet Guide (Aluminum & Steel)	1
14	0558003539	Spacer Tube, Big	2	28	0558003542	Main Gear Drive	1

## Drive Roll and Guide Tube Selection

Wire Type & Diameter	Roll Drive*	Guide Tube NAS
<b>Hard Wires ("V" groove)</b>		
.023 in. (0.6 mm)	21155	0558001077
.030 in. (0.8 mm)	21155	0558001077
.035 in. (0.9 mm)	21156	0558001078
.045 in. (1.2 mm)	21156	0558001078
<b>Cored Wires (Knurled "V" groove)</b>		
.030 in. (0.8 mm)	21160	0558001077
.035 in. (0.9 mm)	21160	0558001078
.040 in. (1.0 mm)	21161	0558001078
.045 in. (1.2 mm)	21161	0558001078
.052 in. (1.4 mm)	21161	0558001078
1/16 in. (1.6 mm)	21161	0558001079
5/64 in. (2.0 mm)	21162	0558001079
<b>Soft (aluminum) Wire ("U" groove)</b>		
.030 in. (0.8 mm)	21158	0558001896
.035 in. (0.9 mm)	21158	0558001896
3/64 in. (1.2 mm)	21159	0558001897
1/16 in. (1.6 mm)	21159	0558001898

\* Two drive rolls are required for four roll drive systems.

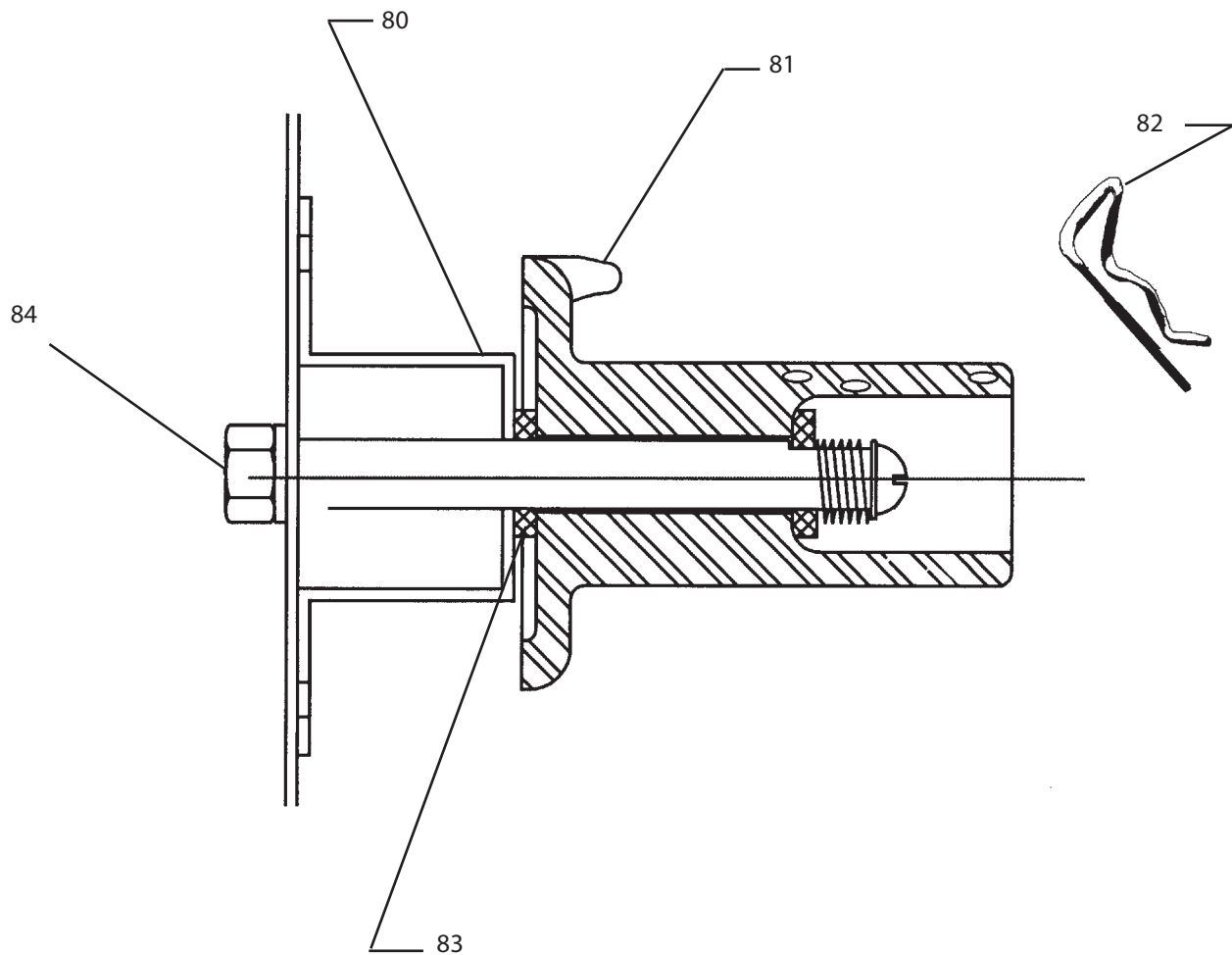


Figure 30 - Spindle Assembly for Migmaster 260

No.	QTY. REQ.	ITEM NO.	DESCRIPTION	CIRCUIT SYMBOL
80	1	0558002561M	WIRE SPOOL MOUNT BRACKET	
81	1	948258	MOLDED SPINDLE	
82	1	634347	CLIP HITCH .16D X 3.25L	
83	2	948255	BRAKE PADS	
84	1	36756	"D" SHAFT ALUMINUM	

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## NOTES

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## NOTES

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## REVISION HISTORY

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1. Original release - 04/2005
2. Revision - 05/2006 - Updated Handle Assembly Installation subsection per inputs from Ray Lundy.
3. Revision - 08/2007 - Changed Specifications in Sect 2 - Process: MIG (GMAW), Open Circuit Voltage (max): from: 70 Vdc to: 39.0 Vdc per D. Perkins.



**ESAB Welding & Cutting Products, Florence, SC Welding Equipment  
COMMUNICATION GUIDE - CUSTOMER SERVICES**

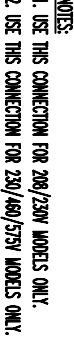
- A. CUSTOMER SERVICE QUESTIONS:  
Telephone: (800)362-7080 / Fax: (800) 634-7548 Hours: 8:00 AM to 7:00 PM EST  
Order Entry Product Availability Pricing Order Information Returns
- B. ENGINEERING SERVICE:  
Telephone: (843) 664-4416 / Fax : (800) 446-5693 Hours: 7:30 AM to 5:00 PM EST  
Warranty Returns Authorized Repair Stations Welding Equipment Troubleshooting
- C. TECHNICAL SERVICE:  
Telephone: (800) ESAB-123/ Fax: (843) 664-4452 Hours: 8:00 AM to 5:00 PM EST  
Part Numbers Technical Applications Specifications Equipment Recommendations
- D. LITERATURE REQUESTS:  
Telephone: (843) 664-5562 / Fax: (843) 664-5548 Hours: 7:30 AM to 4:00 PM EST
- E. WELDING EQUIPMENT REPAIRS:  
Telephone: (843) 664-4487 / Fax: (843) 664-5557 Hours: 7:30 AM to 3:30 PM EST  
Repair Estimates Repair Status
- F. WELDING EQUIPMENT TRAINING  
Telephone: (843)664-4428 / Fax: (843) 679-5864 Hours: 7:30 AM to 4:00 PM EST  
Training School Information and Registrations
- G. WELDING PROCESS ASSISTANCE:  
Telephone: (800) ESAB-123 Hours: 7:30 AM to 4:00 PM EST
- H. TECHNICAL ASST. CONSUMABLES:  
Telephone : (800) 933-7070 Hours: 7:30 AM to 5:00 PM EST

**IF YOU DO NOT KNOW WHOM TO CALL**

Telephone: (800) ESAB-123  
Fax: (843) 664-4462  
Hours: 7:30 AM to 5:00 PM EST  
or  
visit us on the web at <http://www.esabna.com>  
The ESAB web site offers  
Comprehensive Product Information  
Material Safety Data Sheets  
Warranty Registration  
Instruction Literature Download Library  
Distributor Locator  
Global Company Information  
Press Releases  
Customer Feedback & Support



1	S1	SWITCH POWER 40A 600V
	TB1	TERMINAL BOARD (PRIMARY INPUT)
	T1	TRANSFORMER MAIN
	Q1	MODULE IGBT 300A 600V
	Q2	MODULE IGBT 300A 600V
	L1	INDUCTOR
	C1-3	CAPACITOR 3500UF
2	TB2	TERMINAL BLOCK 8 POS
	PCB3	PRINTED CIRCUIT BOARD DRIVER
	SH1	TRANSUCER CURRENT
3	SOL1	SOLENOID VALVE 24V
	TS1	SWITCH THERMAL 176F
	TS2	SWITCH THERMAL 176F
	R1	POTENTIOMETER 10K - V/A
	S2	SWITCH PB NORMALLY OPEN (PRESET)
	S3	SWITCH TOGGLE SPOT (MG/TH/STICK)
4	M1	FAN MOTOR
	SSR1	SOLID STATE RELAY
	PCB1	PRINTED CIRCUIT BOARD MAIN
	PCB2	PRINTED CIRCUIT BOARD DISPLAY
	R3	POTENTIOMETER 3K
	R9	OPTION - INDICANCE
5	R2	POTENTIOMETER 10 K (WIRE FEED SPEED)
	R4	POTENTIOMETER 250K (BURNBACK)
	M2	MOTOR WIREFED
		OPTION- SPOOL GUN
		OPTION - REMOTE



REFERENCE DRAWINGS:  
WIRING DIAGRAM: 0558002599  
WIRE KIT: 0558002590  
CABLE/HOSE KIT: 0558002559

UNLESS OTHERWISE SPECIFIED, DIM ARE IN INCHES		PA-8106-01-01		2-1-01	
TOL. XX ± .015		RELEASED FOR		DATE	
ANGLES ± °		ESAB WELDING & CUTTING PRODUCTS			
SURFACE ROUGHNESS IS IN HUNDRETHS		FEDSPEC 25 2501			
ROUGHNESS NUMBER		TITLE			
BENCH SWAGE EDGES		SCHEMATIC, DIAG 230/460/275V...			
REPRO MADE FROM		SCALE			
SIMILAR TO		D-0558001807			
FIRST NAME FOR ORDER		SUP. BY			
DRAWN		APPROVED			
BY SMC		CHK BY			
DATE 3-22-01		DATE 3-22-01			
BY DMD		D-0558002597			
DATE 3-22-01					



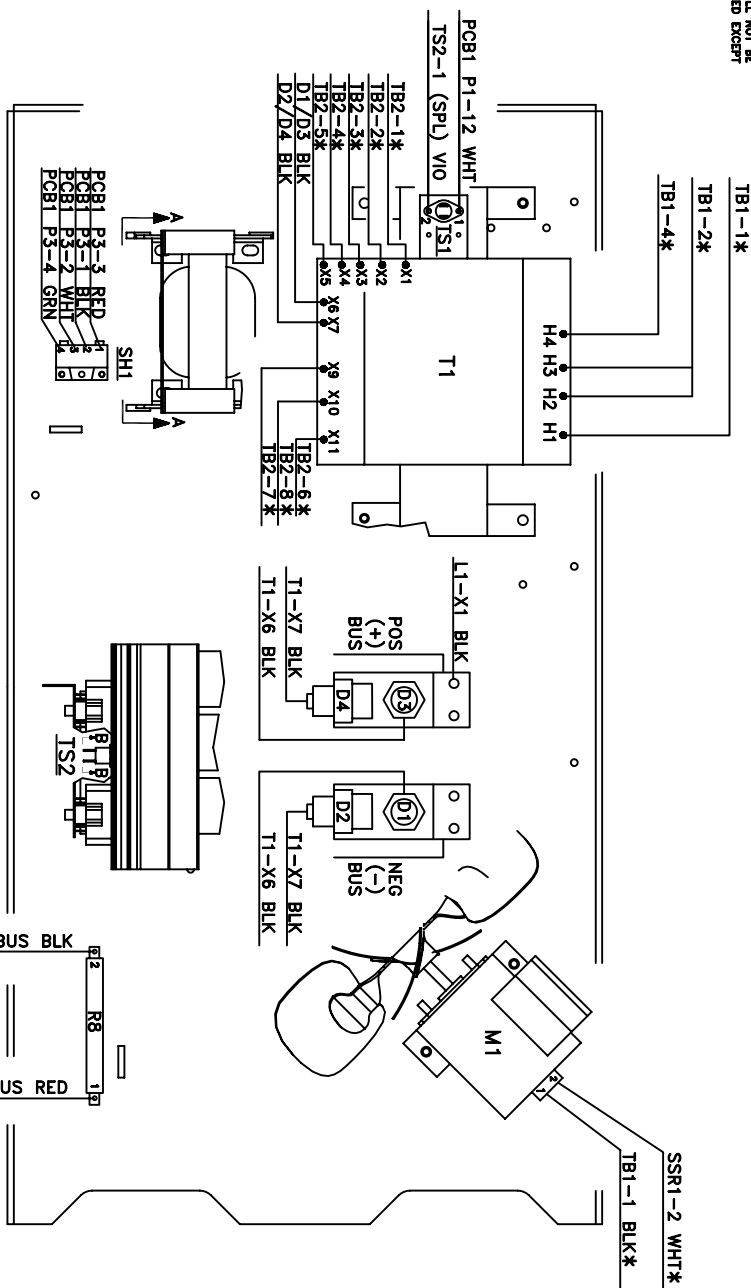
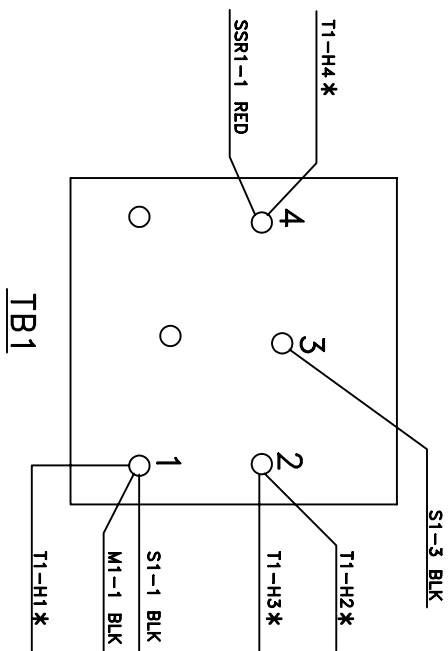
D-0558002599

THIS DRAWING CONTAINS PROPRIETORIAL INFORMATION OF ESAB WELDING & CUTTING PRODUCTS AND IS LOANED WITH THE EXPRESS AGREEMENT THAT THIS DRAWING (1) WILL NOT BE REPRODUCED OR COPIED, (2) WILL NOT BE USED OTHER THAN IN WORK FOR ESAB WELDING & CUTTING PRODUCTS AND (3) WILL NOT BE DISCLOSED EXCEPT TO EMPLOYEES OF THE PARTY TO WHOM THIS DRAWING IS LOANED AND ON A CONFIDENTIAL BASIS.

## BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY				
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION

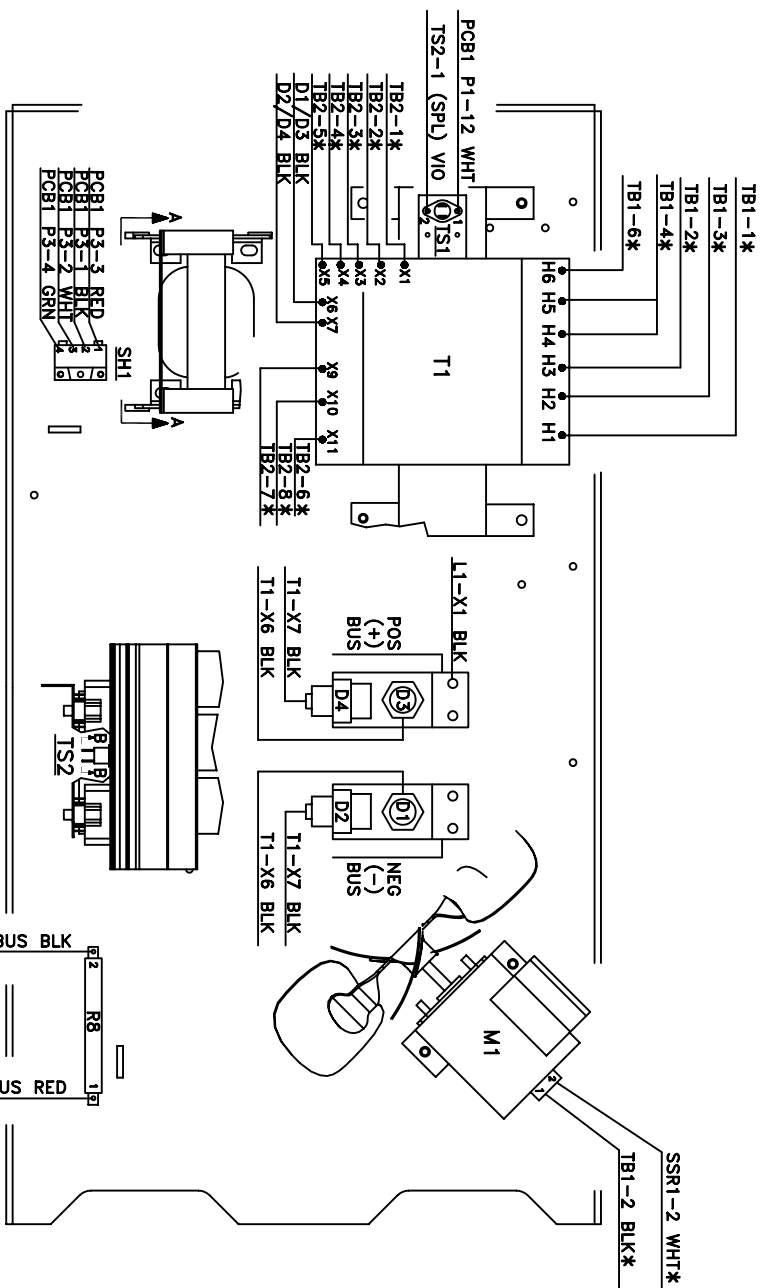
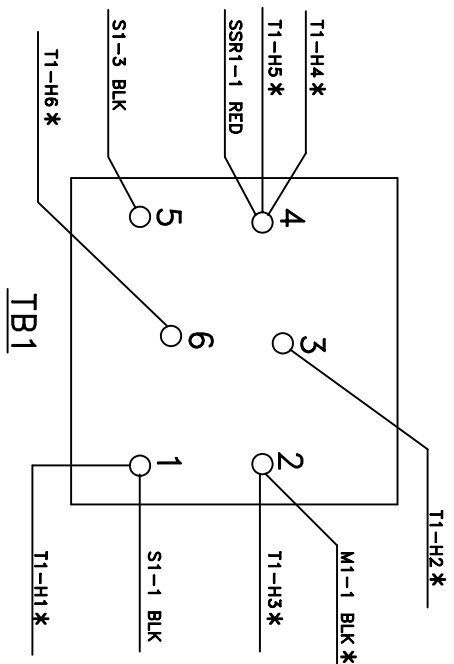
208/230V CONNECTION ONLY



BASE TOP VIEW



230/460/575V CONNECTION ONLY



**NOTES:**

1. • DENOTES SPLICE.  
2. \* DENOTES SELF LEAD.

SHT 2 OF 3

A	SEE SHEET ONE				
M LTR	CANOE	BY DATE	CHK'D		

[illegible]

